

SEQUENCE LISTING

<110> Rosen, Craig A.
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Ballance, David J.
Turner, Andrew J.

<120> Albumin Fusion Proteins

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| ccgggtgtca | tcttcctcac | caagaagggg | cgacgtttct | gtgccaaccc | cagtataag | 300 |
| caagttcagg | tttgcatgag | aatgctgaag | ctggacacac | ggatcaaaac | ccgtaaaaac | 360 |
| tga | | | | | | 363 |

<210> 15
 <211> 435
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 15 | | | | | | |
| atgtggctgc | agagcctgct | gctcttgggc | actgtggcct | gcagcatctc | tgcacccggc | 60 |
| cgctcgccca | gccccagcac | acagccctgg | gagcatgtga | atgccatcca | ggaggcccg | 120 |
| cgtctcctga | acctgagtag | agacactgct | gctgagatga | atgaaacagt | agaagtcatc | 180 |
| tcagaaatgt | ttgacctcca | ggagccgacc | tgcttacaga | cccgcctgga | gctgtacaag | 240 |
| cagggcctgc | ggggcagcct | caccaagctc | aagggccct | tgaccatgat | ggccagccac | 300 |

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| tacaaacagc | actgccctcc | aacccccgaa | acttccctgtg | caaccacagat | tatcaccttt | 360 |
| gaaagtttca | aagagaacct | gaaggacttt | ctgcttgtca | tcccctttga | ctgctgggag | 420 |
| ccagtccagg | agtga | | | | | 435 |

<210> 16
 <211> 435
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|-------------|-------------|------------|-----|
| <400> 16 | | | | | | |
| atgtggctgc | agagcctgct | gctcttgggc | actgtggcct | gcagcatctc | tgcacccgcc | 60 |
| cgctcgccca | gccccagcac | acagccctgg | gagcatgtga | atgccatcca | ggaggcccg | 120 |
| cgctctcctga | acctgagtag | agacactgct | gctgagatga | atgaaacagt | agaagtcatc | 180 |
| tcagaaatgt | ttgacctcca | ggagccgacc | tgacctacaga | cccgcttggg | gctgtacaag | 240 |
| cagggcctgc | ggggcagcct | caccaagctc | aagggccct | tgacctgat | ggccagccac | 300 |
| tacaaacagc | actgccctcc | aacccccgaa | acttccctgtg | caaccacagat | tatcaccttt | 360 |
| gaaagtttca | aagagaacct | gaaggacttt | ctgcttgtca | tcccctttga | ctgctgggag | 420 |
| ccagtccagg | agtga | | | | | 435 |

<210> 17
 <211> 816
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| <400> 17 | | | | | | |
| gttgctgaaa | caccaactta | cccatggaga | gatgctgaaa | ctggtgaaag | actggtttgt | 60 |
| gctcaatgtc | caccaggtag | ttttgttcaa | agaccatgta | gaagagattc | tccaactact | 120 |
| tgttggtccat | gtccaccaag | acattacact | caattttgga | actacctgga | aagatgtaga | 180 |
| tactgtaacg | ttctttgtgg | tgaaagagaa | gaagaagcta | gagcttgtca | tgctactcat | 240 |
| aacagagctt | gtagatgtag | aactggtttt | tttgctcatg | ctggtttttg | tttggaaacat | 300 |
| gcttcttgtc | cacctggtgc | tggtgttatt | gctcctggta | ctccttctca | aaacactcaa | 360 |
| tgctagccat | gtccaccagg | tactttttct | gcttcttctt | cttcttctga | acaatgtcaa | 420 |
| ccacatagaa | actgtactgc | tttgggtctg | gctttgaatg | ttccagggtc | ttcttctcat | 480 |
| gatactttgt | gtacttcttg | tactggtttt | cctttgtcta | ctagagttcc | aggtgctgaa | 540 |
| gaatgtgaaa | gagctgttat | tgattttgtt | gcttttcaag | atatttctat | taagagactg | 600 |
| caaagactgc | tgcaagctct | ggaagctcca | gaaggttggg | gtccaactcc | aagagctggg | 660 |
| agagctgctt | tgcaattgaa | gttgagaaga | agattgacag | aattgttggg | tgctcaagat | 720 |
| ggtgctttgt | tggttagatt | gttgcaagct | ttgagagttg | ctagaatgcc | tggtttggaa | 780 |
| agatctgtta | gagaaagatt | tttgccagtt | cactaa | | | 816 |

<210> 18
 <211> 813
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|
| <400> 18 | | | | | | |
| gttgctgaaa | caccaactta | cccatggaga | gatgctgaaa | ctggtgaaag | actggtttgt | 60 |
| gctcaatgtc | caccaggtag | ttttgttcaa | agaccatgta | gaagagattc | tccaactact | 120 |
| tgttggtccat | gtccaccaag | acattacact | caattttgga | actacctgga | aagatgtaga | 180 |
| tactgtaacg | ttctttgtgg | tgaaagagaa | gaagaagcta | gagcttgtca | tgctactcat | 240 |
| aacagagctt | gtagatgtag | aactggtttt | tttgctcatg | ctggtttttg | tttggaaacat | 300 |
| gcttcttgtc | cacctggtgc | tggtgttatt | gctcctggta | ctccttctca | aaacactcaa | 360 |
| tgctagccat | gtccaccagg | tactttttct | gcttcttctt | cttcttctga | acaatgtcaa | 420 |
| ccacatagaa | actgtactgc | tttgggtctg | gctttgaatg | ttccagggtc | ttcttctcat | 480 |
| gatactttgt | gtacttcttg | tactggtttt | cctttgtcta | ctagagttcc | aggtgctgaa | 540 |
| gaatgtgaaa | gagctgttat | tgattttgtt | gcttttcaag | atatttctat | taagagactg | 600 |
| caaagactgc | tgcaagctct | ggaagctcca | gaaggttggg | gtccaactcc | aagagctggg | 660 |
| agagctgctt | tgcaattgaa | gttgagaaga | agattgacag | aattgttggg | tgctcaagat | 720 |
| ggtgctttgt | tggttagatt | gttgcaagct | ttgagagttg | ctagaatgcc | tggtttggaa | 780 |
| agatctgtta | gagaaagatt | tttgccagtt | cac | | | 813 |

<210> 19
 <211> 813

<212> DNA
 <213> Homo sapiens

<400> 19
 gttgctgaaa caccaactta cccatggaga gatgctgaaa ctggtgaaag actggtttgt 60
 gctcaatgtc caccaggtag ttttggtcaa agaccatgta gaagagattc tccaactact 120
 tgtggtccat gtccaccaag acattacact caattttgga actacctgga aagatgtaga 180
 tactgtaacg ttctttgtgg tgaagagaa gaagaagcta gagcttgta tgctactcat 240
 aacagagctt gtagatgtag aactggtttt tttgctcatg ctggtttttg tttggaacat 300
 gcttcttgtc cacttggtgc tgggtgtatt gctcctggta ctcttctca aaacactcaa 360
 tgtcagccat gtccaccagg tactttttct gcttcttctt cttcttctga acaatgtcaa 420
 ccacatagaa actgtactgc tttgggtctg gctttgaatg ttccagggtc ttcttctcat 480
 gatactttgt gtacttcttg tactggtttt cctttgtcta cttaggttc aggtgctgaa 540
 gaatgtgaaa gagctgttat tgattttgtt gcttttcaag atatttctat taagagactg 600
 caaagactgc tgcaagctct ggaagctcca gaaggttggg gtccaactcc aagagctggg 660
 agagctgctt tgcaattgaa gttgagaaga agattgacag aattgttggg tgctcaagat 720
 ggtgctttgt tggtagatt gttgcaagct ttgagagttg ctagaatgcc tggtttggaa 780
 agatctgtta gagaaagatt tttgccagtt cac 813

<210> 20
 <211> 903
 <212> DNA
 <213> Homo sapiens

<400> 20
 atgagggcgc tggaggggcc aggcctgtcg ctgctgtgcc tgggtgtggc gctgcctgcc 60
 ctgctgcccgtg tgccggctgt acgcggagtg gcagaaacac ccacctaccc ctggcgggac 120
 gcagagacag gggagcggct ggtgtgcgcc cagtgcctcc caggcacctt tgtgcagcgg 180
 ccgtgccgcc gagacagccc cagcagctgt ggcccgtgtc caccgcgcca ctacacgcag 240
 ttctggaact acctggagcg ctgccgtac tgcaacgtcc tctgcgggga gcgtgaggag 300
 gaggcacggg cttgccacgc caccacacac cgtgcctgcc gctgccgcac cggcttcttc 360
 gcgcacgctg gtttctgctt ggagcacgca tcgtgtccac ctggtgccgg cgtgattgcc 420
 ccgggcaccc ccagccagaa cagcagtgcc cagccgtgcc cccaggcac cttctcagcc 480
 agcagctcca gctcagagca gtgccagccc caccgcaact gcacggccct gggcctggcc 540
 ctcaatgtgc caggctcttc ctccatgac accctgtgca ccagctgcac tggcttcccc 600
 ctacgaccca gggtagcagg agctgaggag tgtgagcgtg ccgtcatcga ctttgtggct 660
 ttccaggaca tctccatcaa gaggctgcag cggctgctgc aggccctcga ggccccggag 720
 ggctggggtc cgacaccaag ggcggggcgc gcggccttgc agctgaagct gcgtcggcgg 780
 ctacgggagc tctgggggac gcaggacggg gcgctgctgg tgcggctgct gcaggcgctg 840
 cgcgtggcca ggatgcccgg gctggagcgg agcgtccgtg agcgttccct ccctgtgcac 900
 tga 903

<210> 21
 <211> 624
 <212> DNA
 <213> Homo sapiens

<400> 21
 atgagcacca aacctgatat gattcaaaag tgtttgtggc ttgagatcct tatgggtata 60
 ttcatgtctg gcaccctatc cctggactgt aacttactga acgttcacct gagaagagtc 120
 acctggcaaa atctgagaca tctgagtagt atgagcaatt catttctgtt agaattgtcta 180
 cgagaaaaca tagcttttga gttgccccaa gagtttctgc aatacaccca acctatgaag 240
 agggacatca agaaggcctt ctatgaaatg tccctacagg cttcaacat cttcagccaa 300
 cacaccttca aatattggaa agagagacac ctcaaacaaa tccaaatagg acttgatcag 360
 caagcagagt acctgaacca atgcttgagg gaagacgaga atgaaaatga agacatgaaa 420
 gaaatgaaaag agaattgagat gaaaccctca gaagccaggg tccccagct gagcagctg 480
 gaactgagga gatatttcca caggatagac aatttcttga aagaaaagaa atacagtgc 540
 tgtgcctggg agattgtccg agtggaatc agaagatgtt tgtattactt ttacaaattt 600
 acagctctat tcaggaggaa ataa 624

<210> 22
 <211> 327
 <212> DNA

<213> Homo sapiens

<400> 22

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| atgccactct | gggtgttctt | ctttgtgatc | ctcacctca | gcaacagctc | ccactgctcc | 60 |
| ccacctcccc | ctttgacctt | caggatgcgg | cggtatgcag | atgccatctt | caccaacagc | 120 |
| taccggaagg | tgctggggcca | gctgtccgcc | cgcaagctgc | tccaggacat | catgagcagg | 180 |
| cagcagggag | agagcaacca | agagcgagga | gcaagggcac | ggcttggtcg | tcaggtagac | 240 |
| agcatgtggg | cagaacaaaa | gcaaatggaa | ttggagagca | tcctggtggc | cctgctgcag | 300 |
| aagcacagca | ggaactccca | gggatga | | | | 327 |

<210> 23

<211> 132

<212> DNA

<213> Homo sapiens

<400> 23

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| tatgcagatg | ccatcttcac | caacagctac | cggaagggtgc | tgggccagct | gtccgcccgc | 60 |
| aagctgctcc | aggacatcat | gagcaggcag | cagggagaga | gcaaccaaga | gcgaggagca | 120 |
| agggcacggc | tt | | | | | 132 |

<210> 24

<211> 102

<212> DNA

<213> Homo sapiens

<400> 24

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tctgtgagtg | aaatacagct | tatgcataac | ctgggaaaac | atctgaactc | gatggagaga | 60 |
| gtagaatggc | tgcgtaagaa | gctgcaggat | gtgcacaatt | tt | | 102 |

<210> 25

<211> 102

<212> DNA

<213> Homo sapiens

<400> 25

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tctgtgagtg | aaatacagct | tatgcataac | ctgggaaaac | atctgaactc | gatggagaga | 60 |
| gtagaatggc | tgcgtaagaa | gctgcaggat | gtgcacaatt | tt | | 102 |

<210> 26

<211> 462

<212> DNA

<213> Homo sapiens

<400> 26

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| atgtacagga | tgcaactcct | gtcttgcatt | gcactaagtc | ttgcacttgt | cacaaacagt | 60 |
| gcacctactt | caagttctac | aaagaaaaca | cagctacaac | tgagcattt | actgctggat | 120 |
| ttacagatga | ttttgaatgg | aattaataat | tacaagaatc | ccaaactcac | caggatgctc | 180 |
| acattttaagt | tttacatgcc | caagaaggcc | acagaactga | aacatcttca | gtgtctagaa | 240 |
| gaagaactca | aacctctgga | ggaagtgcta | aatttagctc | aaagcaaaaa | ctttcactta | 300 |
| agacccaggg | acttaatcag | caatatcaac | gtaatagttc | tggaactaaa | gggatctgaa | 360 |
| acaacattca | tgtgtgaata | tgctgatgag | acagcaacca | ttgtagaatt | tctgaacaga | 420 |
| tggattacct | tttgtcaaag | catcatctca | acactgactt | ga | | 462 |

<210> 27

<211> 462

<212> DNA

<213> Homo sapiens

<400> 27

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| atgtacagga | tgcaactcct | gtcttgcatt | gcactaagtc | ttgcacttgt | cacaaacagt | 60 |
| gcacctactt | caagttctac | aaagaaaaca | cagctacaac | tgagcattt | actgctggat | 120 |
| ttacagatga | ttttgaatgg | aattaataat | tacaagaatc | ccaaactcac | caggatgctc | 180 |
| acattttaagt | tttacatgcc | caagaaggcc | acagaactga | aacatcttca | gtgtctagaa | 240 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gaagaactca | aacctctgga | ggaagtgcta | aatttagctc | aaagcaaaaa | ctttcactta | 300 |
| agaccaggg | acttaatcag | caatatcaac | gtaatagttc | tggaactaaa | gggatctgaa | 360 |
| acaacattca | tgtgtgaata | tgctgatgag | acagcaacca | ttgtagaatt | tctgaacaga | 420 |
| tggtattac | tttgtcaaag | catcatctca | acactgactt | ga | | 462 |

<210> 28
 <211> 579
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 28 | | | | | | |
| atgggtgttc | acgaatgtcc | agcttggttg | tggttggtgt | tgtctttgtt | gtctttgcca | 60 |
| ttgggtttgc | cagttttggg | tgctccacca | agattgat | gtgattctag | agttttggaa | 120 |
| agatacttgt | tggaagctaa | ggaagctgaa | aacattacca | ctggttggtc | tgaacactgt | 180 |
| tctttgaacg | aaaacattac | tggtccagat | actaaggta | acttctacgc | ttggaagaga | 240 |
| atggaagttg | gtcaacaagc | tggtgaagtt | tggaaggtt | tggtcttgtt | gtctgaagct | 300 |
| gttttgagag | gtcaagcttt | gttggttaac | tcctctcaac | catgggaacc | attgcaatta | 360 |
| cacgttgata | aggctgtttc | tggtttgaga | tccttgacta | ccttggtgag | agctttgaga | 420 |
| gctcaaaagg | aagctatttc | tcaccagat | gccgtctctg | ccgctccatt | gagaactatt | 480 |
| actgctgata | ctttcagaaa | gttggtcaga | gtttactcta | acttcttgag | aggtaagttg | 540 |
| aagttgtaca | ctggtgaagc | ttgtagaact | ggtgataga | | | 579 |

<210> 29
 <211> 579
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 29 | | | | | | |
| atgggtgttc | acgaatgtcc | agcttggttg | tggttggtgt | tgtctttgtt | gtctttgcca | 60 |
| ttgggtttgc | cagttttggg | tgctccacca | agattgat | gtgattctag | agttttggaa | 120 |
| agatacttgt | tggaagctaa | ggaagctgaa | aacattacca | ctggttggtc | tgaacactgt | 180 |
| tctttgaacg | aaaacattac | tggtccagat | actaaggta | acttctacgc | ttggaagaga | 240 |
| atggaagttg | gtcaacaagc | tggtgaagtt | tggaaggtt | tggtcttgtt | gtctgaagct | 300 |
| gttttgagag | gtcaagcttt | gttggttaac | tcctctcaac | catgggaacc | attgcaatta | 360 |
| cacgttgata | aggctgtttc | tggtttgaga | tccttgacta | ccttggtgag | agctttgaga | 420 |
| gctcaaaagg | aagctatttc | tcaccagat | gccgtctctg | ccgctccatt | gagaactatt | 480 |
| actgctgata | ctttcagaaa | gttggtcaga | gtttactcta | acttcttgag | aggtaagttg | 540 |
| aagttgtaca | ctggtgaagc | ttgtagaact | ggtgataga | | | 579 |

<210> 30
 <211> 1386
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|------|
| <400> 30 | | | | | | |
| atggcgcccg | tcgccgtctg | ggccgcgctg | gccgtcggac | tgagctctg | ggctgcggcg | 60 |
| cacgccttgc | ccgccaggt | ggcatttaca | ccctacgccc | cggagcccg | gagcacatgc | 120 |
| cggctcagag | aatactatga | ccagacagct | cagatgtgct | gcagcaaatg | ctcgccgggc | 180 |
| caacatgcaa | aagtcttctg | taccaagacc | tcggacaccg | tgtgtgactc | ctgtgaggac | 240 |
| agcacatata | cccagctctg | gaactgggtt | cccagtgct | tgagctgtgg | ctcccgtgt | 300 |
| agctctgacc | agggtgaaac | tcaagcctgc | actcgggaac | agaaccgcat | ctgcacctgc | 360 |
| aggcccggt | ggtactgcgc | gctgagcaag | caggaggggt | gccggctgtg | cgcgccgtg | 420 |
| cgaagtgcc | gcccgggctt | cggcgtggcc | agaccaggaa | ctgaaacatc | agacgtggtg | 480 |
| tgcaagccct | gtgccccggg | gacgttctcc | aacacgactt | catccacgga | tatttgcagg | 540 |
| ccccaccaga | tctgtaacgt | ggtggccatc | cctgggaatg | caagcatgga | tgcatgtctgc | 600 |
| acgtccacgt | ccccacccg | gagtatggcc | ccaggggcag | tacacttacc | ccagccagtg | 660 |
| tccacacgat | cccaacacac | gcagccaact | ccagaaccca | gcactgctcc | aagcacctcc | 720 |
| ttcctgctcc | caatgggccc | cagcccccca | gctgaaggga | gcactggcga | cttcgtctct | 780 |
| ccagttggac | tgatttgtgg | tgtgacagcc | ttgggtctac | taataatagg | agtggtgaac | 840 |
| tgtgtcatca | tgaccaggt | gaaaaagaag | cccttggtcc | tgcaagagaga | agccaaggtg | 900 |
| cctcacttgc | ctgccgataa | ggccccgggt | acacagggcc | ccgagcagca | gcacctgtg | 960 |
| atcacagcgc | cgagctccag | cagcagctcc | ctggagagct | cggccagtg | gttggacaga | 1020 |
| agggcgccca | ctcggaacca | gccacaggca | ccaggcgtgg | aggccagtg | ggccggggag | 1080 |

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|------|
| gcccggggcca | gcaccggggag | ctcagattct | tcccctgggtg | gccatggggac | ccaggtcaat | 1140 |
| gtcacctgca | tcgtgaacgt | ctgtagcagc | tctgaccaca | gctcacagt | ctcctcccaa | 1200 |
| gccagctcca | caatgggaga | cacagattcc | agccccctcg | agtccccgaa | ggacgagcag | 1260 |
| gtcccccttct | ccaaggagga | atgtgccttt | cggtcacagc | tggagacgcc | agagaccctg | 1320 |
| ctggggagca | ccgaagagaa | gcccctgccc | cttggagtgc | ctgatgctgg | gatgaagccc | 1380 |
| agttaa | | | | | | 1386 |

<210> 31
 <211> 501
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| <400> 31 | | | | | | |
| atgagctaca | acttgcttgg | attcctacaa | agaagcagca | attttcagtg | tcagaagctc | 60 |
| ctgtggcaat | tgaatgggag | gcttgaatat | tgcctcaagg | acaggatgaa | ctttgacatc | 120 |
| cctgaggaga | ttaagcagct | gcagcagttc | cagaaggagg | acgccgcatt | gaccatctat | 180 |
| gagatgctcc | agaacatctt | tgctattttc | agacaagatt | catctagcac | tggctggaat | 240 |
| gagactattg | ttgagaacct | cctggctaata | gtctatcatc | agataaacca | tctgaagaca | 300 |
| gtcctggaag | aaaaactgga | gaaagaagat | ttcaccaggg | gaaaactcat | gagcagtcctg | 360 |
| cacctgaaaa | gatattatgg | gaggattctg | cattacctga | aggccaagga | gtacagtcac | 420 |
| tgtgcctgga | ccatagtcag | agtggaaatc | ctaagggaact | tttacttcat | taacagactt | 480 |
| acaggttacc | tccgaaacta | a | | | | 501 |

<210> 32
 <211> 501
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|-------------|-------------|------------|-------------|-----|
| <400> 32 | | | | | | |
| atgagctaca | acttgcttgg | attcctacaa | agaagcagca | attttcagtg | tcagaagctc | 60 |
| ctgtggcaat | tgaatgggag | gcttgaatat | tgcctcaagg | acaggatgaa | ctttgacatc | 120 |
| cctgaggaga | ttaagcagct | gcagcagttc | cagaaggagg | acgccgcatt | gaccatctat | 180 |
| gagatgctcc | agaacatctt | tgctattttc | agacaagatt | catctagcac | tggctggaat | 240 |
| gagactattg | ttgagaacct | cctggctaata | gtctatcatc | agataaacca | tctgaagaca | 300 |
| gtcctggaag | aaaaactgga | gaaagaagat | ttcaccaggg | gaaaactcat | gagcagtcctg | 360 |
| cacctgaaaa | gatattatgg | gaggattctg | cattacctga | aggccaagga | gtacagtcac | 420 |
| tgtgcctgga | ccatagtcag | agtggaaatc | ctaagggaact | tttacttcat | taacagactt | 480 |
| acaggttacc | tccgaaacta | a | | | | 501 |

<210> 33
 <211> 579
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|-------------|-------------|-------------|------------|------------|-----|
| <400> 33 | | | | | | |
| atgggtgttc | acgaatgtcc | agcttggttg | tggttggtgt | tgtctttggt | gtctttgcc | 60 |
| ttgggtttgc | cagttttggg | tgctccacca | agattgattt | gtgattctag | agttttggaa | 120 |
| agatacttgt | tggaagctaa | ggaagctgaa | tctattacca | ctggttggtc | tgaacactgt | 180 |
| tctttgaacg | aatctattac | tggtccagat | actaagggtta | acttctacgc | ttggaagaga | 240 |
| atggaagtgt | gtcaacaagc | tggtgaagtt | tggaagggtt | tggctttggt | gtctgaagct | 300 |
| gttttgagag | gtcaagcttt | gttggtttct | tctctcaac | catgggaacc | attgcaatta | 360 |
| cacgttgata | aggctgtttc | tggtttgaga | tctttgacta | ccttggtgag | agctttgaga | 420 |
| gtcctaaaag | aagctatttc | tccaccagat | gccgcttctg | ccgctccatt | gagaactatt | 480 |
| actgctgata | ctttcagaaa | gttggttcaga | gtttactcta | acttcttgag | aggtaagttg | 540 |
| aagttgtaca | ctgggtgaagc | ttgtagaact | ggtgataga | | | 579 |

<210> 34
 <211> 579
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|-----------|----|
| <400> 34 | | | | | | |
| atgggtgttc | acgaatgtcc | agcttggttg | tggttggtgt | tgtctttggt | gtctttgcc | 60 |

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| ttgggtttgc | cagttttggg | tgctccacca | agattgat | gtgattctag | agttttggaa | 120 |
| agatacttgt | tggaagctaa | ggaagctgaa | tctattacca | ctggttgtgc | tgaacactgt | 180 |
| tctttgaacg | aatctattac | tggtccagat | actaagggtta | acttctacgc | ttggaagaga | 240 |
| atggaagttg | gtcaacaagc | tggtgaagtt | tggaaggtt | tggtcttgtt | gtctgaagct | 300 |
| gttttgagag | gtcaagcttt | gttggtttct | tcctctcaac | catgggaacc | attgcaatta | 360 |
| cacgttgata | aggctgtttc | tggtttgaga | tctttgacta | ccttgttgag | agctttgaga | 420 |
| gctcaaaagg | aagctatttc | tccaccagat | gccgtctctg | ccgtctcatt | gagaactatt | 480 |
| actgctgata | ctttcagaaa | gttggttcaga | gtttactcta | acttcttgag | aggtaagttg | 540 |
| aagttgtaca | ctggtgaagc | ttgtagaact | ggtgataga | | | 579 |

<210> 35
 <211> 1386
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| <400> 35 | | | | | | |
| atggcgcccg | tcgccgtctg | ggccgcgctg | gccgtcggac | tgagctctg | ggctgcggcg | 60 |
| cacgccttgc | ccgcccaggt | ggcattttaca | ccctacgccc | cggagcccg | gagcacatgc | 120 |
| cggtccagag | aatactatga | ccagacagct | cagatgtgct | gcagcaaatg | ctcgccgggc | 180 |
| caacatgcaa | aagtcttctg | taccaagacc | tcggacaccg | tgtgtgactc | ctgtgaggac | 240 |
| agcacataca | cccagctctg | gaactgggtt | cccgagtgtc | tgagctgtgg | ctcccgtgt | 300 |
| agctctgacc | aggttgaaac | tcaagcctgc | actcgggaac | agaaccgcat | ctgcacctgc | 360 |
| aggcccggt | ggtactgctg | gctgagcaag | caggaggggt | gccggctgtg | cgcccgctg | 420 |
| cgcaagtgcc | ccccgggctt | cgccgtggcc | agaccaggaa | ctgaaacatc | agacgtggtg | 480 |
| tgcaagccct | gtgccccggg | gacgttctcc | aacacgactt | catccacgga | tatttgcagg | 540 |
| ccccaccaga | tctgtaacgt | ggtggccatc | cctgggaatg | caagcatgga | tgcagtctgc | 600 |
| acgtccacgt | ccccacccg | gagtatggcc | ccaggggcag | tacacttacc | ccagccagtg | 660 |
| tccacacgat | cccaacacac | gcagccaact | ccagaaccga | gcactgctcc | aagcacctcc | 720 |
| ttctgtctcc | caatggggccc | cagcccccca | gctgaaggga | gcactggcga | cttcgctctt | 780 |
| ccagttggac | tgatttgtgg | tgtgacagcc | ttgggtctac | taataatagg | agtggtgaac | 840 |
| tgtgtcatca | tgaccaggt | gaaaaagaag | cccttgtgcc | tgacagagaga | agccaagggtg | 900 |
| cctcacttgc | ctgccgataa | ggcccggggt | acacagggcc | ccgagcagca | gcacctgtctg | 960 |
| atcacagcgc | cgagctccag | cagcagctcc | ctggagagct | cggccagtgc | gttggacaga | 1020 |
| agggcgccca | ctcggaacca | gccacaggca | ccaggcgtgg | aggccagtgg | ggccggggag | 1080 |
| gcccggggcca | gcaccgggag | ctcagattct | tcccctggtg | gccatgggac | ccaggtcaat | 1140 |
| gtcacctgca | tcgtgaacgt | ctgtagcagc | tctgaccaca | gctcacagt | ctcctcccaa | 1200 |
| gccagctcca | caatgggaga | cacagattcc | agccccctcg | agtccccgaa | ggacgagcag | 1260 |
| gtcccccttc | ccaaggagga | atgtgccttt | cggtcacagc | tggaacgcc | agagacctg | 1320 |
| ctggggagca | ccgaagagaa | gcccctgccc | cttgagtgctg | ctgatgctgg | gatgaagccc | 1380 |
| agttaa | | | | | | 1386 |

<210> 36
 <211> 627
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-----|
| <400> 36 | | | | | | |
| atgtggaaat | ggatactgac | acatttgtcc | tcagccttcc | cccacctgcc | cggtgtgtgc | 60 |
| tgctgtgtgt | ttttgttgct | gttcttgggt | tcttccgtcc | ctgtcacctg | ccaagccctt | 120 |
| ggtcaggaca | tggtgtcacc | agaggccacc | aactcttctt | cctcctcctt | ctcctctcct | 180 |
| tccagcgcg | gaaggcatgt | gcggagctac | aatcaccttc | aaggagatgt | ccgtgtggaga | 240 |
| aagctattct | ctttcaccaa | gtactttctc | aagattgaga | agaacgggaa | ggtcagcggtg | 300 |
| accaagaagg | agaactgccc | gtacagcatc | ctggagataa | catcagtaga | aatcggagtt | 360 |
| gttgccgtca | aagccattaa | cagcaactat | tacttagcca | tgaacaagaa | ggggaaactc | 420 |
| tatggctcaa | aagaatttaa | caatgactgt | aagctgaagg | agaggataga | ggaaaatgga | 480 |
| tacaatacct | atgcatcatt | taactggcag | cataatggga | ggcaaatgta | tgtggcattg | 540 |
| aatggaaaag | gagctccaag | gagaggacag | aaaacacgaa | ggaaaaaacac | ctctgtctac | 600 |
| tttcttccaa | tggtggtaca | ctcatag | | | | 627 |

<210> 37
 <211> 627
 <212> DNA
 <213> Homo sapiens


```

<400> 37
atgtggaaat ggatactgac acattgtgcc tcagcctttc cccacctgcc cggctgctgc 60
tgctgctgct ttttgttgct gttcttgggtg tcttccgtcc ctgtcacctg ccaagccctt 120
ggtcaggaca tgggtgtcacc agaggccacc aactcttctt cctcctcctt ctctctctct 180
tccagcgcgg gaaggcatgt gcggagctac aatcaccttc aaggagatgt ccgctggaga 240
aagctattct ctttcaccaa gtactttctc aagattgaga agaacgggaa ggtcagcggg 300
accaagaagg agaactgccc gtacagcatc ctggagataa catcagtaga aatcggagtt 360
gttgccgtca aagccattaa cagcaactat tacttagcca tgaacaagaa ggggaaactc 420
tatggctcaa aagaatttaa caatgactgt aagctgaagg agaggataga ggaaaatgga 480
tacaatacct atgcatcatt taactggcag cataatggga ggcaaatgta tgtggcattg 540
aatggaaaag gagctccaag gagaggacag aaaacacgaa ggaaaaacac ctctgctcac 600
tttcttccaa tgggtgtaca ctcatag 627

```

```

<210> 38
<211> 852
<212> DNA
<213> Homo sapiens

```

```

<400> 38
atggagcctc ctgggagactg ggggcctcct ccctggagat ccacccccaa aaccgacgtc 60
ttgaggctgg tgctgtatct caccttctctg ggagccccct gctacgcccc agctctgccc 120
tcctgcaagg aggacgagta cccagtgggc tccgagtgtc gccccaagtg cagtccaggt 180
tatcgtgtga aggaggcctg cggggagctg acgggcacag tgtgtgaacc ctgccctcca 240
ggcacctaca ttgccacct caatggccta agcaagtgtc tgcagtgcc aatgtgtgac 300
ccagccatgg gcctgcgcgc gagccggaac tgctccagga cagagaacgc cgtgtgtggc 360
tgcagccag gccacttctg catcgtccag gacggggacc actgcgcgc gtgccgcgt 420
tacgccacct ccagcccggt ccagaggggt cagaaggag gcaccgagag tcaggacacc 480
ctgtgtcaga actgcccccc ggggaccttc tctccaatg ggacctgga ggaatgtcag 540
caccagacca agtgcagctg gctggtgacg aaggccggag ctgggaccag cagctccac 600
tggttatggt ggtttctctc agggagcctc gtcacgtcga ttgtttgctc cacagtggc 660
ctaatacatat gtgtgaaaag aagaaagcca aggggtgatg tagtcaaggt gatcgtctcc 720
gtccagcggg aaagacagga ggcagaaggt gaggccacag tcattgaggc cctgcaggcc 780
cctccggacg tcaccacggt ggccgtggag gagacaatac cctcattcac ggggaggagc 840
ccaaaccact ga 852

```

```

<210> 39
<211> 505
<212> DNA
<213> Homo sapiens

```

```

<400> 39
gccccaccac gcctcatctg tgacagccga gtcttgagga ggtacctctt ggaggccaag 60
gaggccgagg ctatcacgac gggctgtgct gaacactgca gcttgaatga ggctatcact 120
gtcccagaca ccaaagttaa tttctatgcc tgggaagagga tggaggtcgg gcagcaggcc 180
gtagaagtct ggcagggcct ggccctgctg tcggaagctg tcctgcgggg ccaggccctg 240
ttggctgcct ctcccagcc gtgggagccc ctgcagctgc atgtggataa agccgtcagt 300
ggccttcgca gcctcaccac tctgcttcgg gctctgcgag ccagaagga agccatctcc 360
cctccagatg cggcctcagc tgctccactc cgaacaatca ctgctgacac tttccgcaaa 420
ctcttccgag tctactccaa tttctccgg ggaaagctga agctgtacac aggggaggcc 480
tgcaggacag gggactaata agctt 505

```

```

<210> 40
<211> 505
<212> DNA
<213> Homo sapiens

```

```

<400> 40
gccccaccac gcctcatctg tgacagccga gtcttgagga ggtacctctt ggaggccaag 60
gaggccgaga atatcacgac gggctgtgct gaacactgca gcttgaatga gaatatcact 120
gtcccagaca ccaaagttaa tttctatgcc tgggaagagga tggaggtcgg gcagcaggcc 180
gtagaagtct ggcagggcct ggccctgctg tcggaagctg tcctgcgggg ccaggccctg 240
ttgggtcaatt cttcccagcc gtgggagccc ctgcagctgc atgtggataa agccgtcagt 300

```

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ggccttcgca | gcctcaccac | tctgcttcgg | gctctgcgag | cccagaagga | agccatctcc | 360 |
| cctccagatg | cgccctcagc | tgctccactc | cgaacaatca | ctgctgacac | tttccgcaaa | 420 |
| ctcttccgag | tctactccaa | tttctcccg | ggaaagctga | agctgtacac | aggggagggc | 480 |
| tgcaggacag | gggactaata | agctt | | | | 505 |

<210> 41
 <211> 279
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 41 | | | | | | |
| atggctcgcc | tacagactgc | actcctgggt | gtyctcgctc | tccttgctgt | ggcgttcaa | 60 |
| gcaactgagg | caggccccct | cgccgccaac | atggaagaca | gcgtctgctg | ccgtgattac | 120 |
| gtccgttacc | gtctgccctt | gcgcgtgggt | aaacacttct | actggacctc | agactcctgc | 180 |
| ccgaggcctg | gcgtgggtgt | gctaaccttc | agggataagg | agatctgtgc | tgatcccaga | 240 |
| gtgccctggg | tgaagatgat | tctcaataag | ctgagccaa | | | 279 |

<210> 42
 <211> 462
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 42 | | | | | | |
| atgtacagga | tgcaactcct | gtcttgcat | gcactaagtc | ttgcacttgt | cacaaacagt | 60 |
| gcacctactt | caagttctac | aaagaaaaca | cagctacaac | tgagcattt | actgctggat | 120 |
| ttacagatga | ttttgaatgg | aattaataat | tacaagaatc | ccaaactcac | caggatgctc | 180 |
| acattttaagt | tttacatgcc | caagaaggcc | acagaactga | aacatcttca | gtgtctagaa | 240 |
| gaagaactca | aacctctgga | ggaagtgcta | aatttagctc | aaagcaaaaa | ctttcactta | 300 |
| agacccaggg | acttaatcag | caatatcaac | gtaatagttc | tggaactaaa | gggatctgaa | 360 |
| acaacattca | tgtgtgaata | tgctgatgag | acagcaacca | ttgtagaatt | tctgaacaga | 420 |
| tggtattacct | tttgtcaaag | catcatctca | acactgactt | ga | | 462 |

<210> 43
 <211> 462
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 43 | | | | | | |
| atgtacagga | tgcaactcct | gtcttgcat | gcactaagtc | ttgcacttgt | cacaaacagt | 60 |
| gcacctactt | caagttctac | aaagaaaaca | cagctacaac | tgagcattt | actgctggat | 120 |
| ttacagatga | ttttgaatgg | aattaataat | tacaagaatc | ccaaactcac | caggatgctc | 180 |
| acattttaagt | tttacatgcc | caagaaggcc | acagaactga | aacatcttca | gtgtctagaa | 240 |
| gaagaactca | aacctctgga | ggaagtgcta | aatttagctc | aaagcaaaaa | ctttcactta | 300 |
| agacccaggg | acttaatcag | caatatcaac | gtaatagttc | tggaactaaa | gggatctgaa | 360 |
| acaacattca | tgtgtgaata | tgctgatgag | acagcaacca | ttgtagaatt | tctgaacaga | 420 |
| tggtattacct | tttgtcaaag | catcatctca | acactgactt | ga | | 462 |

<210> 44
 <211> 747
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 44 | | | | | | |
| caggtagcag | tgcagcagtc | aggggctgag | gtgaagaagc | ctgggtcctc | ggtgagggtc | 60 |
| tcttgcaagg | cttctggagg | caccttcaac | aacaatgcta | tcaactgggt | gcgacaggcc | 120 |
| cctggacaag | ggcttgagtg | gatgggaggg | atcatcccta | tgtttggaac | agcaaagtac | 180 |
| tcacagaact | tccagggcag | agtcgcgatt | accgcggacg | aatccacggg | cacagcctcc | 240 |
| atggaactga | gcagcctgag | atctgaggac | acggccgtgt | attactgtgc | gaggtcgagg | 300 |
| gacctactgc | tatttccgca | ccacgccctc | tccccctggg | gccgggggac | aatggtcacc | 360 |
| gtctcgagtg | gtggaggcgg | ttcaggcgga | gggtggcagc | gcgggtggcg | aagtgcattt | 420 |
| tcttctgagc | tgactcagga | ccctgctgtg | tctgtggcct | tgggacagac | agtcagggtc | 480 |
| acatgccaa | gagacagcct | cagaagctat | tatgcaagct | ggtaccagca | gaagccagga | 540 |

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| caggccccctg | tactttgtcat | ctatggtaaa | aacaaccggc | cctcagggat | cccagaccga | 600 |
| ttctctggct | ccagctcagg | aaacacagct | tccttgacca | tcactggggc | tcaggcgga | 660 |
| gatgaggctg | actattactg | tagctccccg | gacagcagtg | gtaaccattg | ggtgttcggc | 720 |
| ggagggaccg | agctgaccgt | cctaggt | | | | 747 |

<210> 45
 <211> 903
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| <400> 45 | | | | | | |
| atgaaatttc | ttctggacat | cctcctgctt | ctcccgttac | tgatcgtctg | ctccctagag | 60 |
| tccttcgtga | agctttttat | tcctaagagg | agaaaaatcag | tcaccggcga | aatcgtgctg | 120 |
| attacaggag | ctgggcatgg | aattgggaga | ctgactgcct | atgaatttgc | taaaactaaa | 180 |
| agcaagctgg | ttctctggga | tataaataag | catggactgg | aggaaacagc | tgccaaatgc | 240 |
| aagggactgg | gtgccaaagt | tcataccttt | gtggtagact | gcagcaaccg | agaagatatt | 300 |
| tacagctctg | caaagaaggt | gaaggcagaa | attggagatg | ttagtatttt | agtaaataat | 360 |
| gctgggtgtag | tctatacatc | agatttgttt | gctacacaag | atcctcagat | tgaaaagact | 420 |
| tttgaagtta | atgtacttgc | acatttctgg | actacaaagg | catttcttcc | tgcaatgacg | 480 |
| aaaaataacc | atggccatat | tgctactgtg | gcttcggcag | ctggacatgt | ctcgggtccc | 540 |
| ttcttactgg | cttactgttc | aagcaagttt | gctgctgttg | gatttcataa | aactttgaca | 600 |
| gatgaactgg | ctgccttaca | aataactgga | gtcaaaacaa | catgtctgtg | tcctaatttc | 660 |
| gtaaacactg | gcttcatcaa | aaatccaagt | acaagtttgg | gaccactct | ggaacctgag | 720 |
| gaagtggtaa | acaggctgat | gcatgggatt | ctgactgagc | agaagatgat | ttttattcca | 780 |
| tcttctatag | cttttttaac | aacattggaa | aggatccttc | ctgagcgttt | cctggcagtt | 840 |
| ttaaaacgaa | aaatcagtgt | taagtttgat | gcagttattg | gatataaaat | gaaagcgcaa | 900 |
| taa | | | | | | 903 |

<210> 46
 <211> 903
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| <400> 46 | | | | | | |
| atgaaatttc | ttctggacat | cctcctgctt | ctcccgttac | tgatcgtctg | ctccctagag | 60 |
| tccttcgtga | agctttttat | tcctaagagg | agaaaaatcag | tcaccggcga | aatcgtgctg | 120 |
| attacaggag | ctgggcatgg | aattgggaga | ctgactgcct | atgaatttgc | taaaactaaa | 180 |
| agcaagctgg | ttctctggga | tataaataag | catggactgg | aggaaacagc | tgccaaatgc | 240 |
| aagggactgg | gtgccaaagt | tcataccttt | gtggtagact | gcagcaaccg | agaagatatt | 300 |
| tacagctctg | caaagaaggt | gaaggcagaa | attggagatg | ttagtatttt | agtaaataat | 360 |
| gctgggtgtag | tctatacatc | agatttgttt | gctacacaag | atcctcagat | tgaaaagact | 420 |
| tttgaagtta | atgtacttgc | acatttctgg | actacaaagg | catttcttcc | tgcaatgacg | 480 |
| aaaaataacc | atggccatat | tgctactgtg | gcttcggcag | ctggacatgt | ctcgggtccc | 540 |
| ttcttactgg | cttactgttc | aagcaagttt | gctgctgttg | gatttcataa | aactttgaca | 600 |
| gatgaactgg | ctgccttaca | aataactgga | gtcaaaacaa | catgtctgtg | tcctaatttc | 660 |
| gtaaacactg | gcttcatcaa | aaatccaagt | acaagtttgg | gaccactct | ggaacctgag | 720 |
| gaagtggtaa | acaggctgat | gcatgggatt | ctgactgagc | agaagatgat | ttttattcca | 780 |
| tcttctatag | cttttttaac | aacattggaa | aggatccttc | ctgagcgttt | cctggcagtt | 840 |
| ttaaaacgaa | aaatcagtgt | taagtttgat | gcagttattg | gatataaaat | gaaagcgcaa | 900 |
| taa | | | | | | 903 |

<210> 47
 <211> 681
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 47 | | | | | | |
| gcctctctga | tccaagccac | ctcccgcag | agaggtgtca | tgggcttcca | aaagttctcc | 60 |
| cccttctctg | ctctcagcat | cttggctctg | ttgcaggcag | gcagcctcca | tgcagcacca | 120 |
| ttcaggctctg | ccctggagag | cagcccagca | gcaccggcca | cgctcagtga | ggacgaagcg | 180 |
| cgctctctgc | tggctgcact | ggtgcaggac | tatgtgcaga | tgaaggccag | tgagctggag | 240 |
| caggagcaag | agagagaggg | ctccagcctg | gacagcccca | gatctaagcg | gtgcggtaat | 300 |
| ctgagtactt | gcatgctggg | cacatacacg | caggacttca | acaagtttca | cacgttcccc | 360 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| caaactgcaa | ttgggggttg | agcacctgga | aagaaaaggg | atatgtccag | cgacttggag | 420 |
| agagaccatc | gccctcataa | tcattgccca | gaagagagcc | tgtgacactg | ccacctgtgt | 480 |
| gactcatcgg | ctggcaggct | tgctgagcag | atcagggggt | gtggtgaaga | acaactttgt | 540 |
| gcccaccaat | gtgggttcca | aagcctttgg | caggcgccgc | agggaccttc | aagcctgagc | 600 |
| agctgaatga | ctcaagaagg | tcacaataaa | gctgaactcc | ttttaatgtg | taatgaaagc | 660 |
| aatttgtagg | aaaggctcca | t | | | | 681 |

<210> 48

<211> 681

<212> DNA

<213> Homo sapiens

<400> 48

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| gcctctctga | tccaagccac | ctcccgccag | agaggtgtca | tgggcttcca | aaagttctcc | 60 |
| cccttcctgg | ctctcagcat | cttggtcctg | ttgcaggcag | gcagcctcca | tgcagcacca | 120 |
| ttcagggtctg | ccctggagag | cagcccagca | gacccggcca | cgctcagtga | ggacgaagcg | 180 |
| cgcttcctgc | tggctgcact | ggtgcaggac | tatgtgcaga | tgaaggccag | tgagctggag | 240 |
| caggagcaag | agagagaggg | ctccagcctg | gacagcccca | gatctaagcg | gtgcggtaat | 300 |
| ctgagtactt | gcatgctggg | cacatacacg | caggacttca | acaagtttca | cacgttcccc | 360 |
| caaactgcaa | ttgggggttg | agcacctgga | aagaaaaggg | atatgtccag | cgacttggag | 420 |
| agagaccatc | gccctcataa | tcattgccca | gaagagagcc | tgtgacactg | ccacctgtgt | 480 |
| gactcatcgg | ctggcaggct | tgctgagcag | atcagggggt | gtggtgaaga | acaactttgt | 540 |
| gcccaccaat | gtgggttcca | aagcctttgg | caggcgccgc | agggaccttc | aagcctgagc | 600 |
| agctgaatga | ctcaagaagg | tcacaataaa | gctgaactcc | ttttaatgtg | taatgaaagc | 660 |
| aatttgtagg | aaaggctcca | t | | | | 681 |

<210> 49

<211> 99

<212> DNA

<213> Homo sapiens

<400> 49

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| tgctccaatc | tctctacttg | cgttctgggg | aagttgagtc | aggaattaca | taagctgcaa | 60 |
| acttaccgcg | gtaccaacac | tggttctggt | acacctggt | | | 99 |

<210> 50

<211> 99

<212> DNA

<213> Homo sapiens

<400> 50

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| tgctccaatc | tctctacttg | cgttctgggg | aagttgagtc | aggaattaca | taagctgcaa | 60 |
| acttaccgcg | gtaccaacac | tggttctggt | acacctggt | | | 99 |

<210> 51

<211> 102

<212> DNA

<213> Homo sapiens

<400> 51

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tctgtgagtg | aaatacagct | tatgcataac | ctgggaaaac | atctgaactc | gatggagaga | 60 |
| gtagaatggc | tgcgtaacaa | gctgcaggat | gtgcacaatt | tt | | 102 |

<210> 52

<211> 102

<212> DNA

<213> Homo sapiens

<400> 52

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tctgtgagtg | aaatacagct | tatgcataac | ctgggaaaac | atctgaactc | gatggagaga | 60 |
| gtagaatggc | tgcgtaacaa | gctgcaggat | gtgcacaatt | tt | | 102 |

<210> 53

<211> 279
 <212> DNA
 <213> Homo sapiens

<400> 53
 atgaagccaa ttcaaaaact cctagctggc cttattctac tgacttggtg cgtggaaggc 60
 tgctccagcc agcactgggc ctatggactg cgccctggag gaaagagaga tgccgaaaat 120
 ttgattgatt ctttccaaga gatagtcaaa gaggttggtc aactggcaga aacccaacgc 180
 ttcgaatgca ccacgcacca gccacgttct cccctccgag acctgaaagg agctctggaa 240
 agtctgattg aagaggaaac tgggcagaag aagatttaa 279

<210> 54
 <211> 279
 <212> DNA
 <213> Homo sapiens

<400> 54
 atgaagccaa ttcaaaaact cctagctggc cttattctac tgacttggtg cgtggaaggc 60
 tgctccagcc agcactgggc ctatggactg cgccctggag gaaagagaga tgccgaaaat 120
 ttgattgatt ctttccaaga gatagtcaaa gaggttggtc aactggcaga aacccaacgc 180
 ttcgaatgca ccacgcacca gccacgttct cccctccgag acctgaaagg agctctggaa 240
 agtctgattg aagaggaaac tgggcagaag aagatttaa 279

<210> 55
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Teprotide sequence

<400> 55
 gaatggccaa gaccacaaat tcctcca 27

<210> 56
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Teprotide sequence

<400> 56
 gaatggccaa gaccacaaat tcctcca 27

<210> 57
 <211> 102
 <212> DNA
 <213> Homo sapiens

<400> 57
 tctgtgagtg aaatacagct tatgcataac ctgggaaaac atctgaactc gatggagaga 60
 gtagaatggc tgcgtaagaa gctgcaggat gtgcacaatt tt 102

<210> 58
 <211> 816
 <212> DNA
 <213> Homo sapiens

<400> 58
 gtggctgaaa cacctacata tccatggaga gatgctgaaa caggagaaag gctgggtgtgt 60

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| gctcagtgtc | ctcctggaac | atttgtgcaa | aggccttgta | ggcgcgattc | tcctacgacg | 120 |
| tgtggccctt | gccctcctag | gcactataca | cagttttgga | actatctcga | gcgctgtagg | 180 |
| tattgcaacg | tgctctgtgg | agaaagggaa | gaggaagcaa | gggcttgtca | tgcaacacac | 240 |
| aacagggcat | gtagggtgtc | cacaggcttc | tttgctcatg | ctggattttg | tctggaacac | 300 |
| gcttcttgtc | ctcctgggtc | tggagtgatc | gctcctggta | caccctctca | gaacacccaa | 360 |
| tgccagccct | gtcctcctgg | caccttctct | gcattctagc | ccagctctga | acaatgccaa | 420 |
| cctcaccgca | attgtacagc | tctgggactg | gctctgaacg | tgccctgggtc | ctcctcccat | 480 |
| gatactctgt | gtacaagctg | tactggcttt | cctctctcta | cccgcgtgcc | tggcgctgaa | 540 |
| gagtgcgaac | gcgctgtgat | cgactttgtg | gccttccagg | atatctctat | caaaaggctg | 600 |
| caacgcctgc | tgcaagctct | ggaagctcct | gagggctggg | gtcccaacac | aagggtctgg | 660 |
| agggctgcac | tgcaactgaa | gcttcgcagg | aggctcactg | aactcctggg | agctcaagat | 720 |
| ggagctctgc | tggtgaggct | gctgcaagct | ctgaggggtg | caaggatgcc | tggactggag | 780 |
| cgctctgtga | gggaacgctt | cctgcctgtg | cactaa | | | 816 |

<210> 59
 <211> 900
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|-----|
| <400> 59 | | | | | | |
| atgagggcgc | tggaggggcc | aggcctgtcg | ctgttgtgcc | tgggtgtggc | gctgcctgcc | 60 |
| ctgctgcccg | tgccggctgt | acgcggagtg | gctgaaacac | ctacatatcc | atggagagat | 120 |
| gctgaaacag | gagaaaggct | ggtgtgtgct | cagtgtcctc | ctggaacatt | tgtgcaaagg | 180 |
| ccttgtaggc | gcgattctcc | tacgacgtgt | ggcccttgcc | ctcctaggca | ctatacacag | 240 |
| ttttggaact | atctcgagcg | ctgtagggtat | tgcaacgtgc | tctgtggaga | aaggggaagag | 300 |
| gaagcaaggg | cttgtcatgc | aacacacaa | agggcatgta | ggtgtcgcac | aggcttcttt | 360 |
| gctcatgctg | gattttgtct | ggaacacgct | tcttgtcctc | ctggtgctgg | agtgtatcgt | 420 |
| cctggtacac | cctctcagaa | cacccaatgc | cagccctgtc | ctcctggcac | cttctctgca | 480 |
| tctagctcca | gctctgaaca | atgccaaact | caccgcaatt | gtacagctct | gggactggct | 540 |
| ctgaacgtgc | ctgggttcctc | ctcccatgat | actctgtgta | caagctgtac | tggctttcct | 600 |
| ctctctaccc | gcgtgcctgg | cgctgaagag | tgcaaacgcg | ctgtgatcga | ctttgtggcc | 660 |
| ttccaggata | tctctatcaa | aaggctgcaa | cgctgtgtgc | aagctctgga | agctcctgag | 720 |
| ggctggggtc | ccacaccaag | ggctggcagg | gctgcaactg | aactgaagct | tcgcaggagg | 780 |
| ctcactgaac | tccctgggagc | tcaagatgga | gctctgctgg | tgaggctgct | gcaagctctg | 840 |
| aggggtggcaa | ggatgcctgg | actggagcgc | tctgtgaggg | aacgcttcct | gcctgtgcac | 900 |

<210> 60
 <211> 102
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 60 | | | | | | |
| tctgtgagtg | aaatacagct | tatgcataac | ctgggaaaac | atctgaactc | gatggagaga | 60 |
| gtagaatggc | tgcgtaagaa | gctgcaggat | gtgcacaatt | tt | | 102 |

<210> 61
 <211> 102
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 61 | | | | | | |
| tctgtgagtg | aaatacagct | tatgcataac | ctgggaaaac | atctgaactc | gatggagaga | 60 |
| gtagaatggc | tgcgtaagaa | gctgcaggat | gtgcacaatt | tt | | 102 |

<210> 62
 <211> 900
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 62 | | | | | | |
| atgagggcgc | tggaggggcc | aggcctgtcg | ctgttgtgcc | tgggtgtggc | gctgcctgcc | 60 |
| ctgctgcccg | tgccggctgt | acgcggagtg | gctgaaacac | ctacatatcc | atggagagat | 120 |
| gctgaaacag | gagaaaggct | ggtgtgtgct | cagtgtcctc | ctggaacatt | tgtgcaaagg | 180 |

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|-----|
| ccttgtaggc | gcgattctcc | tacgacgtgt | ggcccttgcc | ctcctaggca | ctatacacag | 240 |
| ttttggaact | atctcgagcg | ctgtaggtat | tgcaacgtgc | tctgtggaga | aaggggaagag | 300 |
| gaagcaaggg | cttgtcatgc | aacacacaac | agggcatgta | ggtgtcgcac | aggcttcttt | 360 |
| gctcatgctg | gattttgtct | ggaacacgct | tcttgtcctc | ctggtgctgg | agtgatcgct | 420 |
| cctggtacac | cctctcagaa | cacccaatgc | cagccctgtc | ctcctggcac | cttctctgca | 480 |
| tctagctcca | gctctgaaca | atgccaaacct | caccgcaatt | gtacagctct | gggactggct | 540 |
| ctgaacgtgc | ctgggttcctc | ctcccatgat | actctgtgta | caagctgtac | tggcttttct | 600 |
| ctctctaccc | gcgtgcctgg | cgctgaagag | tgcgaacgcg | ctgtgatcga | ctttgtggcc | 660 |
| ttccaggata | tctctatcaa | aaggctgcaa | cgctgtctgc | aagctctgga | agctcctgag | 720 |
| ggctggggtc | ccacaccaag | ggctggcagg | gctgcaactgc | aactgaagct | tcgcaggagg | 780 |
| ctcactgaac | tcctgggagc | tcaagatgga | gctctgctgg | tgaggctgct | gcaagctctg | 840 |
| aggggtggcaa | ggatgcctgg | actggagcgc | tctgtgaggg | aacgcttctc | gcctgtgcac | 900 |

<210> 63
 <211> 813
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 63 | | | | | | |
| gtggctgaaa | cacctacata | tccatggaga | gatgctgaaa | caggagaaag | gctgggtgtgt | 60 |
| gctcagtgtc | ctcctggaac | atttgtgcaa | aggccttgta | ggcgcgattc | tcctacgacg | 120 |
| tgtggccctt | gccctcctag | gcactataca | cagttttgga | actatctcga | gcgctgtagg | 180 |
| tattgcaacg | tgctctgtgg | agaaagggaa | gaggaagcaa | gggcttgtca | tgcaacacac | 240 |
| aacagggcat | gtagggtgtc | cacaggcttc | tttgctcatg | ctggattttg | tctggaacac | 300 |
| gcttcttgtc | ctcctggtgc | tggagtgtat | gctcctggta | caccctctca | gaacacccaa | 360 |
| tgccagccct | gtcctcctgg | caccttctct | gcacttagct | ccagctctga | acaatgccaa | 420 |
| cctcaccgca | attgtacagc | tctgggactg | gctctgaacg | tgcttggttc | ctcctcccat | 480 |
| gatactctgt | gtacaagctg | tactggcttt | cctctctcta | cccgcgtgcc | tggcgtgtaa | 540 |
| gagtgcgaac | gcgctgtgat | cgactttgtg | gccttcagg | atatctctat | caaaaggctg | 600 |
| caacgcctgc | tgcaagctct | ggaagctcct | gagggctggg | gtccacacac | aagggtggc | 660 |
| agggctgcac | tgcaactgaa | gcttcgcagg | aggctcactg | aactcctggg | agctcaagat | 720 |
| ggagctctgc | tggtagggct | gctgcaagct | ctgaggggtg | caaggatgcc | tggactggag | 780 |
| cgctctgtga | gggaacgctt | cctgcctgtg | cac | | | 813 |

<210> 64
 <211> 102
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 64 | | | | | | |
| tctgtgagtg | aaatacagct | tatgcataac | ctgggaaaac | atctgaactc | gatggagaga | 60 |
| gtagaatggc | tcgtaagaa | gctgcaggat | gtgcacaatt | tt | | 102 |

<210> 65
 <211> 627
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| <400> 65 | | | | | | |
| atgtggaaat | ggatactgac | acatttgtgc | tcagcctttc | cccacctgcc | cggctgctgc | 60 |
| tgctgctgct | ttttgttgct | gttcttggtg | tcttcgctcc | ctgtcacctg | ccaagccctt | 120 |
| ggtcaggaca | tgggtgtcacc | agaggccacc | aactcttctt | cctcctcctt | ctcctctcct | 180 |
| tccagcgcg | gaaggcatgt | gcggagctac | aatcaccttc | aaggagatgt | ccgctggaga | 240 |
| aagctattct | ctttcaccaa | gtactttctc | aagattgaga | agaacgggaa | ggtcagcggg | 300 |
| accaagaagg | agaactgccc | gtacagcatc | ctggagataa | catcagtaga | aatcggagtt | 360 |
| gttgccgtca | aagccattaa | cagcaactat | tacttagcca | tgaacaagaa | ggggaaactc | 420 |
| tatggctcaa | aagaatttaa | caatgactgt | aagctgaagg | agaggataga | ggaaaatgga | 480 |
| tacaatacct | atgcatcatt | taactggcag | cataatggga | ggcaaatgta | tgtggcattg | 540 |
| aatggaaaag | gagctccaag | gagaggacag | aaaacacgaa | ggaaaaacac | ctctgctcac | 600 |
| tttcttccaa | tgggtgtaca | ctcatag | | | | 627 |

<210> 66
 <211> 627

<212> DNA
 <213> Homo sapiens

<400> 66
 atgtggaaat ggatactgac acattgtgac tcagcctttc cccacctgcc cggtgtgctgc 60
 tgctgctgct ttttggtgct gttcttgggtg tcttccgtcc ctgtcacctg ccaagccctt 120
 gggtcaggaca tgggtgtcacc agaggccacc aactcttctt cctcctcctt ctcctctcct 180
 tccagcgcgg gaaggcatgt gcggagctac aatcaccttc aaggagatgt ccgctggaga 240
 aagctattct ctttcaccaa gtactttctc aagattgaga agaacgggaa ggtcagcggg 300
 accaagaagg agaactgccc gtacagcatc ctggagataa catcagtaga aatcggagtt 360
 gttgccgtca aagccattaa cagcaactat tacttagcca tgaacaagaa ggggaaactc 420
 tatggctcaa aagaatttaa caatgactgt aagctgaagg agaggataga ggaaaatgga 480
 tacaatacct atgcatcatt taactggcag cataatggga ggcaaatgta tgtggcattg 540
 aatggaaaag gagctccaag gagaggacag aaaacacgaa ggaaaaacac ctctgctcac 600
 tttcttccaa tgggtgtaca ctcatag 627

<210> 67
 <211> 1009
 <212> DNA
 <213> Homo sapiens

<400> 67
 atgggggtgc acgaatgtcc tgectggctg tggctttctc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtcctggg cgtccaccac cgctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggaggctg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtcttgccgg gccaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctcacca ctctgcttcg ggctctgcga 420
 gcccagaagg aagccatctc cctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttccctccg gggaaagctg 540
 aagctgtaca caggggaggg ctgcaggaca ggggacagat gaccagggtg gtccacctgg 600
 gcatatccac cactccctc accaaccattg ctgtgcccac accctcccc gccactcctg 660
 aaccccgctg aggggctctc agctcagcgc cagcctgtcc catggacact ccagtgccag 720
 caatgacatc tcaggggcca gaggaactgt ccagagagca actctgagat ctaaggatgt 780
 cacagggcca acttgagggc ccagagcagg aagcatcag agagcagctt taaactcagg 840
 gacagagcca tgctgggaag acgcctgagc tcactcggca ccctgcaaaa tttgatgcca 900
 ggacacgctt tggaggcgat ttacctgttt tcgcacctac catcagggac aggatgacct 960
 ggagaactta ggtggcaagc tgtgacttct ccagggtctca cgggcatgg 1009

<210> 68
 <211> 1009
 <212> DNA
 <213> Homo sapiens

<400> 68
 atgggggtgc acgaatgtcc tgectggctg tggctttctc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtcctggg cgtccaccac cgctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggaggctg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtcttgccgg gccaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctcacca ctctgcttcg ggctctgcga 420
 gcccagaagg aagccatctc cctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttccctccg gggaaagctg 540
 aagctgtaca caggggaggg ctgcaggaca ggggacagat gaccagggtg gtccacctgg 600
 gcatatccac cactccctc accaaccattg ctgtgcccac accctcccc gccactcctg 660
 aaccccgctg aggggctctc agctcagcgc cagcctgtcc catggacact ccagtgccag 720
 caatgacatc tcaggggcca gaggaactgt ccagagagca actctgagat ctaaggatgt 780
 cacagggcca acttgagggc ccagagcagg aagcatcag agagcagctt taaactcagg 840
 gacagagcca tgctgggaag acgcctgagc tcactcggca ccctgcaaaa tttgatgcca 900
 ggacacgctt tggaggcgat ttacctgttt tcgcacctac catcagggac aggatgacct 960
 ggagaactta ggtggcaagc tgtgacttct ccagggtctca cgggcatgg 1009

<210> 69
 <211> 102
 <212> DNA
 <213> Homo sapiens

<400> 69
 tctgtgagtg aaatacagct tatgcataac ctgggaaaac atctgaactc gatggagaga 60
 gtagaatggc tgcgtaagaa gctgcaggat gtgcacaatt tt 102

<210> 70
 <211> 282
 <212> DNA
 <213> Homo sapiens

<400> 70
 atgaagatct ccgtggctgc aattcccttc ttctctctca tcaccatcgc cctagggacc 60
 aagactgaat cctcctcacg gggaccttac caccctcag agtgctgctt cacctacact 120
 acctacaaga tcccgcgtca gcggattatg gattactatg agaccaacag ccagtgtctc 180
 aagcccggaa ttgtcttcat caccaaaagg ggccattccg tctgtaccaa cccagtgac 240
 aagtgggtcc aggactatat caaggacatg aaggagaact ga 282

<210> 71
 <211> 282
 <212> DNA
 <213> Homo sapiens

<400> 71
 atgaagatct ccgtggctgc aattcccttc ttctctctca tcaccatcgc cctagggacc 60
 aagactgaat cctcctcaag gggaccttac caccctcag agtgctgctt cacctacact 120
 acctacaaga tcccgcgtca gcggattatg gattactatg agaccaacag ccagtgtctc 180
 aagcccggaa ttgtcttcat caccaaaagg ggccattccg tctgtaccaa cccagtgac 240
 aagtgggtcc aggactatat caaggacatg aaggagaact ga 282

<210> 72
 <211> 102
 <212> DNA
 <213> Homo sapiens

<400> 72
 tctgtgagtg aaatacagct tatgcataac ctgggaaaac atctgaactc gatggagaga 60
 gtagaatggc tgcgtaagaa gctgcaggat gtgcacaatt tt 102

<210> 73
 <211> 255
 <212> DNA
 <213> Homo sapiens

<400> 73
 tctgtgagtg aaatacagct tatgcataac ctgggaaaac atctgaactc gatggagaga 60
 gtagaatggc tgcgtaagaa gctgcaggat gtgcacaatt ttgttgccct tggagctcct 120
 ctagctccca gagatgctgg ttcccagagg ccccgaaaaa aggaagacaa tgtcttgggt 180
 gagagccatg aaaaaagtct tggagaggca gacaaagctg atgtgaatgt attaaactaa 240
 gctaaatccc agtaa 255

<210> 74
 <211> 282
 <212> DNA
 <213> Homo sapiens

<400> 74

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| atgaagatct | ccgtggctgc | aattcccttc | ttcctcctca | tcaccatcgc | cctagggacc | 60 |
| aagactgaat | cctcctcacg | gggaccttac | cacctctcag | agtgtctgctt | cacctacact | 120 |
| acctacaaga | ttccgcgtca | gcggtattatg | gattactatg | agaccaacag | ccagtgtctcc | 180 |
| aagcccggaa | ttgtcttcat | cacccaaaagg | ggccattccg | tctgtaccaa | ccccagtgac | 240 |
| aagtgggtcc | aggactatat | caaggacatg | aaggagaact | ga | | 282 |

<210> 75
 <211> 282
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| atgaagatct | ccgtggctgc | aattcccttc | ttcctcctca | tcaccatcgc | cctagggacc | 60 |
| aagactgaat | cctcctcacg | gggaccttac | cacctctcag | agtgtctgctt | cacctacact | 120 |
| acctacaaga | ttccgcgtca | gagaattatg | gattactatg | agaccaacag | ccagtgtctcc | 180 |
| aagcccggaa | ttgtcttcat | cacccaaaagg | ggccattccg | tctgtaccaa | ccccagtgac | 240 |
| aagtgggtcc | aggactatat | caaggacatg | aaggagaact | ga | | 282 |

<210> 76
 <211> 252
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| tctgtgagtg | aaatacagct | tatgcataac | ctgggaaaac | atctgaactc | gatggagaga | 60 |
| gtagaatggc | tgcgtaagaa | gctgcaggat | gtgcacaatt | ttgttgccct | tggagctcct | 120 |
| ctagctccca | gagatgctgg | ttcccagagg | ccccgaaaaa | aggaagacaa | tgtcttggtt | 180 |
| gagagccatg | aaaaaagtct | tggagaggca | gacaaaagctg | atgtgaatgt | attaactaaa | 240 |
| gctaaatccc | ag | | | | | 252 |

<210> 77
 <211> 453
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|-------------|-------------|-------------|-----|
| atgcaactcc | tgtcttgcac | tgcactaagt | cttgcaacttg | tcacaaacag | tgcacctact | 60 |
| tcaagttcta | caaagaaaac | acagctacaa | ctggagcatt | tactgtctgga | tttacagatg | 120 |
| atthttgaatg | gaattaataa | ttacaagaat | cccaaactca | ccaggatgct | cacattttaag | 180 |
| ttttacatgc | ccaagaaggc | cacagaactg | aaacatcttc | agtgtctaga | agaagaactc | 240 |
| aaacctctgg | aggaagtgtc | aaatttagct | caaagcaaaa | actttcactt | aagaccagg | 300 |
| gacttaaatca | gcaatatcaa | cgtaatatgt | ctggaactaa | agggatctga | aacaacattc | 360 |
| atgtgtgaat | atgctgatga | gacagcaacc | attgtagaat | ttctgaacag | atggattacc | 420 |
| ttttctcaga | gcacatcttc | aacactgact | tga | | | 453 |

<210> 78
 <211> 453
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|-------------|-------------|-------------|-----|
| atgcaactcc | tgtcttgcac | tgcactaagt | cttgcaacttg | tcacaaacag | tgcacctact | 60 |
| tcaagttcta | caaagaaaac | acagctacaa | ctggagcatt | tactgtctgga | tttacagatg | 120 |
| atthttgaatg | gaattaataa | ttacaagaat | cccaaactca | ccaggatgct | cacattttaag | 180 |
| ttttacatgc | ccaagaaggc | cacagaactg | aaacatcttc | agtgtctaga | agaagaactc | 240 |
| aaacctctgg | aggaagtgtc | aaatttagct | caaagcaaaa | actttcactt | aagaccagg | 300 |
| gacttaaatca | gcaatatcaa | cgtaatatgt | ctggaactaa | agggatctga | aacaacattc | 360 |
| atgtgtgaat | atgctgatga | gacagcaacc | attgtagaat | ttctgaacag | atggattacc | 420 |
| ttttctcaga | gcacatcttc | aacactgact | tga | | | 453 |

<210> 79
 <211> 282

<212> DNA
 <213> Homo sapiens

<400> 79
 atgaagatct cctggtgctgc aattcccttc ttctctctca tcaccatcgc cctaggggacc 60
 aagactgaat cctcctcacg gggaccttac caccctcag agtgctgctt cacctacact 120
 acctacaaga tcccgctca ggggattatg gattactatg agaccaacag ccagtgtctc 180
 aagcccgaa ttgtcttcat caccaaaagg ggccattccg tctgtacca cccagtgac 240
 aagtgggtcc aggactatat caaggacatg aaggagaact ga 282

<210> 80
 <211> 747
 <212> DNA
 <213> Homo sapiens

<400> 80
 caggtacagc tgcagcagtc aggggctgag gtgaagaagc ctgggtcctc ggtgagggtc 60
 tcctgcaagg cttctggagg caccctcaac aacaatgcta tcaactgggt gcgacaggcc 120
 cctggacaag ggcttgagtg gatgggaggg atcatcccta tgtttggaa agcaaagtac 180
 tcacagaact tccagggcag agtcgcgatt accgcgagc aatccacggg cacagcctcc 240
 atggaactga gcagcctgag atctgaggac acggcctgtg attactgtgc gaggtcggcg 300
 gacctactgc tatttccgca ccacgccctc tccccctggg gccgggggac aatgggtcacc 360
 gtctcgagtg gtggaggcgg ttccaggcga ggtggcagcg gcggtggcgg aagtgcattt 420
 tcttctgagc tgactcagga ccttgctgtg tctgtggcct tgggacagac agtcagggtc 480
 acatgccaa gacacagcct cagaagctat tatgcaagct ggtaccagca gaagccagga 540
 caggccccctg tacttgtcat ctatggtaaa aacaaccggc cctcagggat cccagaccga 600
 ttctctggct ccagctcagg aaacacagct tccttgacca tctctggggc tcaggcgga 660
 gatgaggctg actattactg tagctcccgg gacagcagtg gtaaccattg ggtgttcggc 720
 ggagggaccg agctgaccgt cctaggt 747

<210> 81
 <211> 599
 <212> DNA
 <213> Homo sapiens

<400> 81
 atgggggtgc acgaatgtcc tgcttggtg tggtcttctc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtctctgg cgccccacca cgctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggaggtcg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtcttgccgg gccaggccct gttggtcaac tcttccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctacca ctctgcttcg ggctctgcga 420
 gccagaagg aagccatctc cctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttctccg gggaaagctg 540
 aagctgtaca caggggaggc ctgcaggaca ggggacagat gaccaggtgt gtccacctg 599

<210> 82
 <211> 599
 <212> DNA
 <213> Homo sapiens

<400> 82
 atgggggtgc acgaatgtcc tgcttggtg tggtcttctc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtctctgg cgccccacca cgctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggaggtcg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtcttgccgg gccaggccct gttggtcaac tcttccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctacca ctctgcttcg ggctctgcga 420
 gccagaagg aagccatctc cctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttctccg gggaaagctg 540
 aagctgtaca caggggaggc ctgcaggaca ggggacagat gaccaggtgt gtccacctg 599

<210> 83
 <211> 599
 <212> DNA
 <213> Homo sapiens

<400> 83
 atgggggtgc acgaatgtcc tgcctggctg tggcttctcc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtcctggg cgccccacca cgcctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggagggtcg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtccctgcggg gccaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctcacca ctctgcttcg ggctctgcga 420
 gccagaagg aagccatctc ccctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttctccg gggaaagctg 540
 aagctgtaca caggggaggc ctgcaggaca ggggacagat gaccaggtgt gtccacctg 599

<210> 84
 <211> 599
 <212> DNA
 <213> Homo sapiens

<400> 84
 atgggggtgc acgaatgtcc tgcctggctg tggcttctcc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtcctggg cgccccacca cgcctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggagggtcg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtccctgcggg gccaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctcacca ctctgcttcg ggctctgcga 420
 gccagaagg aagccatctc ccctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttctccg gggaaagctg 540
 aagctgtaca caggggaggc ctgcaggaca ggggacagat gaccaggtgt gtccacctg 599

<210> 85
 <211> 78
 <212> DNA
 <213> Homo sapiens

<400> 85
 ggtgatagat tgcactgtaa gccacaaaga caatctccat ggatgaagtg tcaacacttg 60
 gatccagaag gtggtggt 78

<210> 86
 <211> 599
 <212> DNA
 <213> Homo sapiens

<400> 86
 atgggggtgc acgaatgtcc tgcctggctg tggcttctcc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtcctggg cgccccacca cgcctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggagggtcg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtccctgcggg gccaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctcacca ctctgcttcg ggctctgcga 420
 gccagaagg aagccatctc ccctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttctccg gggaaagctg 540
 aagctgtaca caggggaggc ctgcaggaca ggggacagat gaccaggtgt gtccacctg 599

<210> 87

<211> 599
 <212> DNA
 <213> Homo sapiens

<400> 87
 atgggggtgc acgaatgtcc tgcctggctg tggcttctcc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtcctggg cgccccacca cgcctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggaggtcg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtccctgcggg gccaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctcacca ctctgcttcg ggctctgcga 420
 gcccagaagg aagccatctc ccctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttctccg gggaaagctg 540
 aagctgtaca caggggaggc ctgcaggaca ggggacagat gaccaggtgt gtccacctg 599

<210> 88
 <211> 599
 <212> DNA
 <213> Homo sapiens

<400> 88
 atgggggtgc acgaatgtcc tgcctggctg tggcttctcc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtcctggg cgccccacca cgcctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggaggtcg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtccctgcggg gccaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctcacca ctctgcttcg ggctctgcga 420
 gcccagaagg aagccatctc ccctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttctccg gggaaagctg 540
 aagctgtaca caggggaggc ctgcaggaca ggggacagat gaccaggtgt gtccacctg 599

<210> 89
 <211> 1009
 <212> DNA
 <213> Homo sapiens

<400> 89
 atgggggtgc acgaatgtcc tgcctggctg tggcttctcc tgtccctgct gtcgctccct 60
 ctgggcctcc cagtcctggg cgccccacca cgcctcatct gtgacagccg agtcctggag 120
 aggtacctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
 agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
 atggaggtcg ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
 gtccctgcggg gccaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
 catgtggata aagccgtcag tggccttcgc agcctcacca ctctgcttcg ggctctgcga 420
 gcccagaagg aagccatctc ccctccagat gcggcctcag ctgctccact ccgaacaatc 480
 actgctgaca ctttccgcaa actcttccga gtctactcca atttctccg gggaaagctg 540
 aagctgtaca caggggaggc ctgcaggaca ggggacagat gaccaggtgt gtccacctg 600
 gcatatccac cactcctc accaacattg cttgtgccac accctcccc gccactcctg 660
 aacccgctcg aggggctctc agctcagcgc cagcctgtcc catggacact ccagtgccag 720
 caatgacatc tcaggggcca gaggaactgt ccagagagca actctgagat ctaaggatgt 780
 cacagggcca acttgagggc ccagagcagg aagcattcag agagcagctt taaactcagg 840
 gacagagcca tgctgggaag acgcctgagc tcaactcgga ccctgcaaaa tttgatgcc 900
 ggacacgctt tggaggcgat ttacctgttt tcgcacctac catcagggac aggatgacct 960
 ggagaactta ggtggcaagc tgtgacttct ccaggtctca cgggcatgg 1009

<210> 90
 <211> 282
 <212> DNA
 <213> Homo sapiens

<400> 90

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| atgaagatct | ccgtggctgc | aattcccttc | ttcctcctca | tcaccatcgc | cctagggacc | 60 |
| aagactgaat | cctcctcacg | gggaccttac | caccctcag | agtgtctgctt | cacctacact | 120 |
| acctacaaga | ttccgcgtca | gctgattatg | gattactatg | agaccaacag | ccagtgtctcc | 180 |
| aagcccggaa | ttgtcttcat | cacccaaaagg | ggccattccg | tctgtacca | ccccagtgc | 240 |
| aagtgggtcc | aggactatat | caaggacatg | aaggagaact | ga | | 282 |

<210> 91
 <211> 78
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| <400> 91 | | | | | | |
| ggtgatagat | tgcactgtaa | gccacaaaga | caatctccat | ggatgaagtg | tcaacacttg | 60 |
| gatccagaag | gtggtggt | | | | | 78 |

<210> 92
 <211> 78
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| <400> 92 | | | | | | |
| ggtgatgatg | atgattgtgg | ttggattggt | ttcgctaact | tccacttgtg | tttgcacggg | 60 |
| gatccagaag | gtggtggt | | | | | 78 |

<210> 93
 <211> 78
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| <400> 93 | | | | | | |
| ggtgatgatg | atgattgtgg | ttggattggt | ttcgctaact | tccacttgtg | tttgcacggg | 60 |
| gatccagaag | gtggtggt | | | | | 78 |

<210> 94
 <211> 561
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 94 | | | | | | |
| atgaccaaca | agtgtctcct | ccaaattgct | ctcctgttgt | gcttctccac | tacagctctt | 60 |
| tccatgagct | acaacttgct | tggattccta | caaagaagca | gcaattttca | gtgtcagaag | 120 |
| ctcctgtggc | aattgaatgg | gaggcttgaa | tattgcctca | aggacaggat | gaactttgac | 180 |
| atccctgagg | agattaagca | gctgcagcag | ttccagaagg | aggacgccgc | attgaccatc | 240 |
| tatgagatgc | tccagaacat | ctttgctatt | ttcagacaag | attcatctag | cactggctgg | 300 |
| aatgagacta | ttgttgagaa | cctcctggct | aatgtctatc | atcagataaa | ccatctgaag | 360 |
| acagtctctg | aagaaaaact | ggagaaagaa | gatttcacca | ggggaaaact | catgagcagt | 420 |
| ctgcacctga | aaagatatta | tgggaggatt | ctgcattacc | tgaaggccaa | ggagtacagt | 480 |
| cactgtgcct | ggaccatagt | cagagtggaa | atcctaagga | acttttactt | cattaacaga | 540 |
| cttacagggt | acctccgaaa | c | | | | 561 |

<210> 95
 <211> 498
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|-------------|-----|
| <400> 95 | | | | | | |
| atgagctaca | acttgcttgg | attcctacaa | agaagcagca | attttcagtg | tcagaagctc | 60 |
| ctgtggcaat | tgaatgggag | gcttgaatat | tgcctcaagg | acaggatgaa | ctttgacatc | 120 |
| cctgaggaga | ttaagcagct | gcagcagttc | cagaaggagg | acgccgcat | gaccatctat | 180 |
| gagatgctcc | agaacatctt | tgctattttc | agacaagatt | catctagcac | tggctggaat | 240 |
| gagactatgt | ttgagaacct | cctggcta | gtctatcatc | agataaacca | tctgaagaca | 300 |
| gtcctggaag | aaaaactgga | gaaagaagat | ttcaccaggg | gaaaactcat | gagcagctctg | 360 |
| cacctgaaaa | gatattatgg | gaggattctg | cattacctga | aggccaagga | gtacagtcac | 420 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| tgtgcctgga | ccatagtcag | agtggaaatc | ctaaggaact | tttacttcat | taacagactt | 480 |
| acaggttacc | tccgaaac | | | | | 498 |

<210> 96
 <211> 1203
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|------|
| <400> 96 | | | | | | |
| atgaacaagt | tgtgtgtgctg | cgcgctcgtg | tttctggaca | tctccattaa | gtggaccacc | 60 |
| caggaaacgt | ttcctccaaa | gtaccttcat | tatgacgaag | aaacctctca | tcagctgttg | 120 |
| tgtgacaaat | gtcctcctgg | tacctaccta | aaacaacact | gtacagcaaa | gtggaagacc | 180 |
| gtgtgcgccc | cttgccctga | ccactactac | acagacagct | ggcacaccag | tgacgagtgt | 240 |
| ctatactgca | gccccgtgtg | caaggagctg | cagtacgtca | agcaggagtgt | caatcgcacc | 300 |
| cacaaccgcg | tgtgcgaatg | caaggaaagg | cgctaccttg | agatagagtt | ctgcttgaaa | 360 |
| cataggagct | gccctcctgg | atgtggagtg | gtgcaagctg | gaaccccaga | gcgaaataca | 420 |
| gtttgcaaaa | gatgtccaga | tgggttcttc | tcaaatgaga | cgtcattctaa | agcaccctgt | 480 |
| agaaaaacaca | caaattgcag | tgtcttttgt | ctcctgctaa | ctcagaaaag | aaatgcaaca | 540 |
| cacgacaaca | tatgtttccg | aaacagtga | tcaactcaaa | aatgtggaat | agatgttacc | 600 |
| ctgtgtgagg | aggcattctt | caggtttgct | gttctctaca | agtttacgcc | taactggctt | 660 |
| agtgtcttgg | tagacaattt | gcctggcacc | aaagtaaacg | cagagagtgt | agagaggata | 720 |
| aaacggcaac | acagctcaca | agaacagact | ttccagctgc | tgaagttatg | gaaacatcaa | 780 |
| aacaaagacc | aagatatagt | caagaagatc | atccaagata | ttgacctctg | tgaaaacagc | 840 |
| gtgcagcgcc | acattggaca | tgctaacctc | accttcgagc | agcttcgtag | cttgatggaa | 900 |
| agcttaccgg | gaaagaaaag | gggagcagaa | gacattgaaa | aaacaataaa | ggcatgcaaa | 960 |
| cccagtgacc | agatcctgaa | gctgctcagt | ttgtggcgaa | taaaaaatgg | cgaccaagac | 1020 |
| accttgaagg | gcctaattga | cgcactaaag | cactcaaaga | cgtaccactt | tcccaaaact | 1080 |
| gtcactcaga | gtctaaagaa | gaccatcagg | ttccttcaca | gcttcacaa | gtacaaattg | 1140 |
| tatcagaagt | tatttttaga | aatgataggt | aaccagggtcc | aatcagtaaa | aataagctgc | 1200 |
| tta | | | | | | 1203 |

<210> 97
 <211> 1203
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|------|
| <400> 97 | | | | | | |
| atgaacaagt | tgtgtgtgctg | cgcgctcgtg | tttctggaca | tctccattaa | gtggaccacc | 60 |
| caggaaacgt | ttcctccaaa | gtaccttcat | tatgacgaag | aaacctctca | tcagctgttg | 120 |
| tgtgacaaat | gtcctcctgg | tacctaccta | aaacaacact | gtacagcaaa | gtggaagacc | 180 |
| gtgtgcgccc | cttgccctga | ccactactac | acagacagct | ggcacaccag | tgacgagtgt | 240 |
| ctatactgca | gccccgtgtg | caaggagctg | cagtacgtca | agcaggagtgt | caatcgcacc | 300 |
| cacaaccgcg | tgtgcgaatg | caaggaaagg | cgctaccttg | agatagagtt | ctgcttgaaa | 360 |
| cataggagct | gccctcctgg | atgtggagtg | gtgcaagctg | gaaccccaga | gcgaaataca | 420 |
| gtttgcaaaa | gatgtccaga | tgggttcttc | tcaaatgaga | cgtcattctaa | agcaccctgt | 480 |
| agaaaaacaca | caaattgcag | tgtcttttgt | ctcctgctaa | ctcagaaaag | aaatgcaaca | 540 |
| cacgacaaca | tatgtttccg | aaacagtga | tcaactcaaa | aatgtggaat | agatgttacc | 600 |
| ctgtgtgagg | aggcattctt | caggtttgct | gttctctaca | agtttacgcc | taactggctt | 660 |
| agtgtcttgg | tagacaattt | gcctggcacc | aaagtaaacg | cagagagtgt | agagaggata | 720 |
| aaacggcaac | acagctcaca | agaacagact | ttccagctgc | tgaagttatg | gaaacatcaa | 780 |
| aacaaagacc | aagatatagt | caagaagatc | atccaagata | ttgacctctg | tgaaaacagc | 840 |
| gtgcagcgcc | acattggaca | tgctaacctc | accttcgagc | agcttcgtag | cttgatggaa | 900 |
| agcttaccgg | gaaagaaaag | gggagcagaa | gacattgaaa | aaacaataaa | ggcatgcaaa | 960 |
| cccagtgacc | agatcctgaa | gctgctcagt | ttgtggcgaa | taaaaaatgg | cgaccaagac | 1020 |
| accttgaagg | gcctaattga | cgcactaaag | cactcaaaga | cgtaccactt | tcccaaaact | 1080 |
| gtcactcaga | gtctaaagaa | gaccatcagg | ttccttcaca | gcttcacaa | gtacaaattg | 1140 |
| tatcagaagt | tatttttaga | aatgataggt | aaccagggtcc | aatcagtaaa | aataagctgc | 1200 |
| tta | | | | | | 1203 |

<210> 98
 <211> 252
 <212> DNA
 <213> Homo sapiens

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<400> 98
tctgtgagtg aaatacagct tatgcataac ctgggaaaac atctgaactc gatggagaga 60
gtagaatggc tgcgtaagaa gctgcaggat gtgcacaatt ttgttgccct tggagctcct 120
ctagctccca gagatgctgg ttcccagagg ccccgaaaaa aggaagacaa tgtcttggtt 180
gagagccatg aaaaaagtct tggagaggca gacaaagctg atgtgaatgt attaactaaa 240
gctaaatccc ag 252

<210> 99
<211> 252
<212> DNA
<213> Homo sapiens

<400> 99
tctgtgagtg aaatacagct tatgcataac ctgggaaaac atctgaactc gatggagaga 60
gtagaatggc tgcgtaagaa gctgcaggat gtgcacaatt ttgttgccct tggagctcct 120
ctagctccca gagatgctgg ttcccagagg ccccgaaaaa aggaagacaa tgtcttggtt 180
gagagccatg aaaaaagtct tggagaggca gacaaagctg atgtgaatgt attaactaaa 240
gctaaatccc ag 252

<210> 100
<211> 252
<212> DNA
<213> Homo sapiens

<400> 100
tctgtgagtg aaatacagct tatgcataac ctgggaaaac atctgaactc gatggagaga 60
gtagaatggc tgcgtaagaa gctgcaggat gtgcacaatt ttgttgccct tggagctcct 120
ctagctccca gagatgctgg ttcccagagg ccccgaaaaa aggaagacaa tgtcttggtt 180
gagagccatg aaaaaagtct tggagaggca gacaaagctg atgtgaatgt attaactaaa 240
gctaaatccc ag 252

<210> 101
<211> 27
<212> DNA
<213> Homo sapiens

<400> 101
gaatggccaa gaccacaaat tcctcca 27

<210> 102
<211> 27
<212> DNA
<213> Homo sapiens

<400> 102
gaatggccaa gaccacaaat tcctcca 27

<210> 103
<211> 462
<212> DNA
<213> Homo sapiens

<400> 103
atgtacagaa tgcaattggt gtcttgattt gctttgtctt tggctttggt tactaactct 60
gctccaactt cttcttctac taagaagact caattgcaat tggaacactt gttgttgga 120
ttgcaaatga tcttaaacgg tataaacaac tataaaaacc caaagttgac tagaatgttg 180
actttcaagt tctacatgcc aaagaaagct actgaattga agcacttgca atgtttggaa 240

```


| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gaagaattga | agccattgga | agaagttttg | aacttggctc | aatctaagaa | cttccacttg | 300 |
| agaccaagag | atttgatttc | taacattaac | gttattgttt | tggaattgaa | gggttctgaa | 360 |
| actactttta | tgtgcgagta | cgcagacgaa | actgctacta | tcgttgagtt | cttaaatagg | 420 |
| tggtacactt | tctgccaatc | tattatttct | actttgacat | aa | | 462 |

<210> 104
 <211> 462
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 104 | | | | | | |
| atgtacagaa | tgcaattggt | gtcttgtatt | gctttgtctt | tggtcttggg | tactaactct | 60 |
| gctccaactt | cttcttctac | taagaagact | caattgcaat | tggaacactt | gttggttgac | 120 |
| ttgcaaata | tcttaaacgg | tataaacaac | tataaaaacc | caaagttagc | tagaatgttg | 180 |
| actttcaagt | tctacatgcc | aaagaaaagt | actgaattga | agcacttgca | atgtttggaa | 240 |
| gaagaattga | agccattgga | agaagttttg | aacttggctc | aatctaagaa | cttccacttg | 300 |
| agaccaagag | atttgatttc | taacattaac | gttattgttt | tggaattgaa | gggttctgaa | 360 |
| actactttta | tgtgcgagta | cgcagacgaa | actgctacta | tcgttgagtt | cttaaatagg | 420 |
| tggtacactt | tctgccaatc | tattatttct | actttgacat | aa | | 462 |

<210> 105
 <211> 599
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|-----|
| <400> 105 | | | | | | |
| atgggggtgc | acgaatgtcc | tgccctggctg | tggtcttctc | tgccctgct | gtcgtccct | 60 |
| ctgggctctc | cagtcctggg | cgccccacca | cgctcatct | gtgacagccg | agtcctggag | 120 |
| aggtagctct | tggaggccaa | ggaggccgag | aatatcacga | cggtctgtgc | tgaacactgc | 180 |
| agcttgaatg | agaatatcac | tgtcccagac | accaaagtta | atttctatgc | ctggaagagg | 240 |
| atggaggctg | ggcagcaggc | cgtagaagtc | tggtcaggcc | tggtccctgct | gtcgggaagct | 300 |
| gtcctgcggg | gccaggccct | gttgggtcaac | tcttccagc | cgtgggagcc | cctgcagctg | 360 |
| catgtggata | aagccgtcag | tggtcttcgc | agcctcacca | ctctgcttcg | ggctctgcga | 420 |
| gcccagaagg | aagccatctc | ccctccagat | ggtgctcag | ctgctccact | ccgaacaatc | 480 |
| actgctgaca | ctttccgcaa | actcttccga | gtctactcca | atttctctcg | gggaagctg | 540 |
| aagctgtaca | caggggaggc | ctgcaggaca | ggggacagat | gaccagggtg | gtccacctg | 599 |

<210> 106
 <211> 561
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| <400> 106 | | | | | | |
| atgaccaaca | agtgtctcct | ccaaattgct | ctcctgttgt | gcttctccac | tacagctctt | 60 |
| tccatgagct | acaacttgct | tggtattccta | caaagaagca | gcaattttca | gtgtcagaag | 120 |
| ctcctgtggc | aattgaatgg | gaggcttgaa | tattgcctca | aggacaggat | gaactttgac | 180 |
| atccctgagg | agattaagca | gctgcagcag | ttccagaagg | aggacgccc | attgaccatc | 240 |
| tatgagatgc | tccagaacat | ctttgctatt | ttcagacaag | attcatctag | cactggctgg | 300 |
| aatgagacta | ttgttgagaa | cctcctggct | aatgtctatc | atcagataaa | ccatctgaag | 360 |
| acagtctctg | aagaaaaact | ggagaaaagaa | gatttcacca | ggggaaaact | catgagcagt | 420 |
| ctgcacctga | aaagatatata | tggtgaggatt | ctgcattacc | tgaaggccaa | ggagtacagt | 480 |
| cactgtgcct | ggaccatagt | cagagtggaa | atcctaagga | acttttactt | cattaacaga | 540 |
| cttacagggt | acctccgaaa | c | | | | 561 |

<210> 107
 <211> 501
 <212> DNA
 <213> Homo sapiens

| | | | | | |
|------------|------------|------------|------------|-----------|------------|
| <400> 107 | | | | | |
| atgagctaca | acttgcttgg | attcctacaa | agaagcagca | attttcagt | tcagaagctc |

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| ctgtggcaat | tgaatgggag | gcttgaatat | tgcctcaagg | acaggatgaa | ctttgacatc | 120 |
| cctgaggaga | ttaagcagct | gcagcagttc | cagaaggagg | acgccgcatt | gaccatctat | 180 |
| gagatgctcc | agaacatctt | tgctattttc | agacaagatt | catctagcac | tggctggaat | 240 |
| gagactattg | ttgagaacct | cctggctaata | gtctatcatc | agataaacca | tctgaagaca | 300 |
| gtcctggaag | aaaaactgga | gaaagaagat | ttcaccaggg | gaaaactcat | gagcagtctg | 360 |
| cacctgaaaa | gatattatgg | gaggattctg | cattacctga | aggccaagga | gtacagtcac | 420 |
| tgtgcctgga | ccatagtcag | agtggaaatc | ctaagggaact | tttacttcat | taacagactt | 480 |
| acaggttacc | tccgaaacta | a | | | | 501 |

<210> 108
 <211> 435
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 108 | | | | | | |
| atgtggctgc | agagcctgct | gctcttgggc | actgtggcct | gcagcatctc | tgcacccgcc | 60 |
| cgctcgccca | gccccagcac | acagccctgg | gagcatgtga | atgccatcca | ggaggcccg | 120 |
| cgtctcctga | acctgagtag | agacactgct | gctgagatga | atgaaacagt | agaagtcatc | 180 |
| tcagaaatgt | ttgacctcca | ggagccgacc | tgcctacaga | ccgcctgga | gctgtacaag | 240 |
| cagggcctgc | ggggcagcct | caccaagctc | aagggccct | tgacctgat | ggccagccac | 300 |
| tacaaacagc | actgcctcc | aaccccgaa | acttctgtg | caaccagat | tatcaccttt | 360 |
| gaaagtttca | aagagaacct | gaaggacttt | ctgcttgtca | tccccttga | ctgctgggag | 420 |
| ccagtccagg | agtga | | | | | 435 |

<210> 109
 <211> 435
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 109 | | | | | | |
| atgtggctgc | agagcctgct | gctcttgggc | actgtggcct | gcagcatctc | tgcacccgcc | 60 |
| cgctcgccca | gccccagcac | acagccctgg | gagcatgtga | atgccatcca | ggaggcccg | 120 |
| cgtctcctga | acctgagtag | agacactgct | gctgagatga | atgaaacagt | agaagtcatc | 180 |
| tcagaaatgt | ttgacctcca | ggagccgacc | tgcctacaga | ccgcctgga | gctgtacaag | 240 |
| cagggcctgc | ggggcagcct | caccaagctc | aagggccct | tgacctgat | ggccagccac | 300 |
| tacaaacagc | actgcctcc | aaccccgaa | acttctgtg | caaccagat | tatcaccttt | 360 |
| gaaagtttca | aagagaacct | gaaggacttt | ctgcttgtca | tccccttga | ctgctgggag | 420 |
| ccagtccagg | agtga | | | | | 435 |

<210> 110
 <211> 1203
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|------|
| <400> 110 | | | | | | |
| atgaacaagt | tgtgtgctg | cgcgctcgtg | tttctggaca | tctccattaa | gtggaccacc | 60 |
| caggaaacgt | ttcctccaaa | gtaccttcat | tatgacgaag | aaacctctca | tcagctgttg | 120 |
| tgtgacaaat | gtcctcctgg | tacctaccta | aaacaacact | gtacagcaaa | gtggaagacc | 180 |
| gtgtgcgccc | cttgccctga | ccactactac | acagacagct | ggcacaccag | tgacgagtgt | 240 |
| ctatactgca | gccccgtgtg | caaggagctg | cagtacgtca | agcaggagtg | caatcgaccc | 300 |
| cacaaccgcg | tgtgcgaatg | caagggaagg | cgctaccttg | agatagagtt | ctgcttgaaa | 360 |
| cataggagct | gccctcctgg | atttggagtg | gtgcaagctg | gaaccccgag | gcgaaataca | 420 |
| gtttgcaaaa | gatgtccaga | tgggttcttc | tcaaatgaga | cgctcatctaa | agcacctgt | 480 |
| agaaaacaca | caaattgcag | tgtctttggg | ctcctgctaa | ctcagaaagg | aaatgcaaca | 540 |
| cacgacaaca | tatgttccgg | aaacagtga | tcaactcaaa | aatgtggaat | agatgttacc | 600 |
| ctgtgtgagg | aggcattctt | caggtttgc | gttctacaa | agtttacgcc | taactggctt | 660 |
| agtgtcttgg | tagacaatth | gcctggcacc | aaagtaaacg | cagagagtgt | agagaggata | 720 |
| aaacggcaac | acagctcaca | agaacagact | ttccagctgc | tgaagttagt | gaaacatcaa | 780 |
| aacaaagacc | aagatatagt | caagaagatc | atccaagata | ttgacctctg | tgaacacgac | 840 |
| gtgcagcgcc | acattggaca | tgctaacctc | accttcgagc | agcttcgtag | cttgatggaa | 900 |
| agcttaccgg | gaaagaaagt | gggagcagaa | gacattgaaa | aaacaataaa | ggcatgcaaa | 960 |
| cccagtgacc | agatcctgaa | gctgctcagt | ttgtggcgaa | taaaaaatgg | cgaccaagac | 1020 |

| | | | | | | |
|------------|-------------|------------|-------------|------------|------------|------|
| accttgaagg | gcctaata | gcgactaaag | cactcaaaga | cgtaccactt | tcccaaaact | 1080 |
| gtcactcaga | gtctaaagaa | gaccatcagg | ttccttcaca | gcttcacaat | gtacaaattg | 1140 |
| tatcagaagt | tattttttaga | aatgataggt | aaccagggtcc | aatcagtaaa | aataagctgc | 1200 |
| tta | | | | | | 1203 |

<210> 111
 <211> 1140
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| <400> 111 | | | | | | |
| gaaacgtttc | ctccaaagta | ccttcattat | gacgaagaaa | cctctcatca | gctgtttgtgt | 60 |
| gacaaatgtc | ctcctgggtac | ctacctaata | caacactgta | cagcaaagtg | gaagaccgtg | 120 |
| tgcgccccct | gccctgacca | ctactacaca | gacagctggc | acaccagtga | cgagtgtcta | 180 |
| tactgcagcc | ccgtgtgcaa | ggagctgcag | tacgtcaagc | aggagtgcga | tcgcacccac | 240 |
| aaccgcgtgt | gcgaatgcaa | ggaagggcgc | taccttgaga | tagagtctctg | cttgaaacat | 300 |
| aggagctgcc | ctcctggatt | tggagtgggtg | caagctggaa | ccccagagcg | aaatacagtt | 360 |
| tgcaaaagat | gtccagatgg | gttcttctca | aatgagacgt | catctaaagc | accctgtaga | 420 |
| aaacacacaa | attgcagtgt | ctttgggtctc | ctgctaactc | agaaaggaaa | tgcaacacac | 480 |
| gacaacatat | gttccggaaa | cagtgaatca | actcaaaaat | gtggaataga | tgttaccctg | 540 |
| tgtagaggagg | cattcttcag | gtttgtctgtt | cctacaaagt | ttacgcctaa | ctggcttagt | 600 |
| gtcttggttag | acaatttgcc | tggcaccaaa | gtaaacgcag | agagtgtaga | gaggataaaa | 660 |
| cggaacacac | gtccacaaga | acagactttc | cagctgtctga | agttatggaa | acatcaaaac | 720 |
| aaagaccaag | atatagtcaa | gaagatcatc | caagatatgt | acctctgtga | aaacagcgtg | 780 |
| cagcggcacac | ttggacatgc | taacctcacc | ttcgagcagc | ttcgtagctt | gatggaaagc | 840 |
| ttaccgggaa | agaaagtggg | agcagaagac | attgaaaaaa | caataaaggc | atgcaaacc | 900 |
| agtgaccaga | tcctgaagct | gtcagtttg | tggcgataaa | aaaaatggcg | ccaagacacc | 960 |
| ttgaagggcc | taatgcacgc | actaaagcac | tcaaagacgt | accactttcc | caaaactgtc | 1020 |
| actcagagtc | taaagaagac | catcaggttc | cttcacagct | tcacaatgta | caaattgtat | 1080 |
| cagaagttat | tttttagaaat | gataggtaac | cagggtccaat | cagtaaaaat | aagctgctta | 1140 |

<210> 112
 <211> 858
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|-----|
| <400> 112 | | | | | | |
| atggatgact | ccacagaaaag | ggagcagtc | cgcccttactt | cttgccttaa | gaaaagagaa | 60 |
| gaaatgaaac | tgaaggagtg | tggtttccatc | ctcccacgga | aggaaagccc | ctctgtccga | 120 |
| tcctccaaag | acggaaagct | gctggctgca | accttgctgc | tggcactgct | gtcttgctgc | 180 |
| ctcacggtgg | tgcttttcta | ccagggtggcc | gccctgcaag | gggacctggc | cagcctccgg | 240 |
| gcagagctgc | agggccacca | cgcgagagaag | ctgccagcag | gagcaggagc | ccccaggcc | 300 |
| ggcctggagg | aagctccagc | tgctaccgcg | ggactgaaaa | tccttgaaac | accagctcca | 360 |
| ggagaaggca | actccagtc | gaacagcaga | aataagcgtg | ccgttcaggg | tccagaagaa | 420 |
| acagtcactc | aagactgctt | gcaactgatt | gcagacagtg | aaacaccaac | tatacaaaaa | 480 |
| ggatcttaca | catttggttc | atggcttctc | agcttttaaaa | ggggaagtgc | cctagaagaa | 540 |
| aaagagaata | aaatattggt | caaagaaaact | ggttactttt | ttatatatgg | tcagggtttta | 600 |
| tatactgata | agacctacgc | catgggacat | ctaattcaga | ggaagaagggt | ccatgtcttt | 660 |
| ggggatgaat | tgagtctggt | gactttgttt | cgatgtatc | aaaatatgcc | tgaaacacta | 720 |
| cccaataatt | cctgtctatc | agctggcatt | gcaaaaactgg | aagaaggaga | tgaactccaa | 780 |
| cttgcaatc | caagagaaaa | tgcaaaaaa | tcactggatg | gagatgtcac | attttttggt | 840 |
| gcattgaaac | tgctgtga | | | | | 858 |

<210> 113
 <211> 459
 <212> DNA
 <213> Homo sapiens

| | | | | | |
|------------|-------------|------------|------------|-------------|------------|
| <400> 113 | | | | | |
| gccgttcagg | gtccagaaga | aacagtcact | caagactgct | tgcaactgat | tgacagacgt |
| gaaacaccaa | ctatacaaaa | aggatcttac | acatttgctc | catggcttct | cagcttttaa |
| aggggaagtg | ccctagaaga | aaaagagaat | aaaatatggg | tcaaagaaac | tggttacttt |
| tttatatatg | gtcagggtttt | atatactgat | aagacctacg | ccatggggaca | tctaattcag |

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| aggaagaagg | tccatgtctt | tggggatgaa | ttgagtcttg | tgactttgtt | tcgatgtatt | 300 |
| caaaatatgc | ctgaaacact | acccaataat | tcctgtctatt | cagctggcat | tgcaaaactg | 360 |
| gaagaaggag | atgaactcca | acttgcaata | ccaagagaaa | atgcacaaat | atcactggat | 420 |
| ggagatgtca | catttttttg | tgcattgaaa | ctgctgtaa | | | 459 |

<210> 114
 <211> 270
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| <400> 114 | | | | | | |
| atgaagggcc | ttgcagctgc | cctccttgte | ctcgtctgca | ccatggccct | ctgctcctgt | 60 |
| gcacaagttg | gtaccaacaa | agagctctgc | tgccctcgtct | atacctcctg | gcagattcca | 120 |
| caaaagttca | tagttgacta | ttctgaaacc | agccccagct | gccccaaagcc | aggtgtcatc | 180 |
| ctcctaacca | agagaggccg | gcagatctgt | gctgaccca | ataagaagtg | ggccagaaa | 240 |
| tacatcagcg | acctgaagct | gaatgcctga | | | | 270 |

<210> 115
 <211> 599
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|-----|
| <400> 115 | | | | | | |
| atgggggtgc | acgaatgtcc | tgccctggctg | tggettctcc | tgccctgct | gtcgtccct | 60 |
| ctgggcctcc | cagtcctggg | cgccccacca | cgccctcatct | gtgacagccg | agtcctggag | 120 |
| aggtacctct | tggaggccaa | ggaggccgag | aatatcacga | cggtctgtgc | tgaacactgc | 180 |
| agcttgaatg | agaatatcac | tgccccagac | accaaagtta | atttctatgc | ctggaagagg | 240 |
| atggaggctc | ggcagcaggc | cgtagaagtc | tggcaggggc | tgccctgct | gtcgggaagt | 300 |
| gtcctgcggg | gccaggccct | gttggtcaac | tcttcccagc | cgtgggagcc | cctgcagctg | 360 |
| catgtggata | aagccgtcag | tgcccttcgc | agcctcacca | ctctgcttcg | ggctctgcga | 420 |
| gcccagaagg | aagccatctc | ccctccagat | gcggcctcag | ctgctccact | ccgaacaatc | 480 |
| actgctgaca | ctttccgcaa | actcttccga | gtctactcca | atttccctcg | gggaaagctg | 540 |
| aagctgtaca | caggggaggc | ctgcaggaca | ggggacagat | gaccagggtg | gtccacctg | 599 |

<210> 116
 <211> 852
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|-------------|-------------|------------|------------|-----|
| <400> 116 | | | | | | |
| atggagcctc | ctggagactg | ggggcctcct | ccctggagat | ccacccccaa | aaccgacgtc | 60 |
| ttgaggetgg | tgctgtatct | caccttccctg | ggagccccct | gtacgcccc | agctctgccg | 120 |
| tcctgcaagg | aggacgagta | cccagtgggc | tccgagtgtct | gccccaaagt | cagtccaggt | 180 |
| tatcgtgtga | aggaggcctg | cggggagctg | acgggcacag | tgtgtgaacc | ctgccctcca | 240 |
| ggcacctaca | ttgccacct | caatggccta | agcaagtgtc | tgcaagtcca | aatgtgtgac | 300 |
| ccagccatgg | gcctgcgcgc | gagccggaac | tgctccagga | cagagaacgc | cgtgtgtggt | 360 |
| tgccagcccag | gccacttctg | catcgtccag | gacggggacc | actgcgcgcg | gtgccgcgct | 420 |
| tacgccacct | ccagcccggg | ccagagggtg | cagaagggag | gcaccgagag | tcaggacacc | 480 |
| ctgtgtcaga | actgcccccc | ggggaccttc | tctcccaatg | ggaccctgga | ggaatgtcag | 540 |
| caccagacca | agtgcagctg | gctggtgacg | aaggccggag | ctgggaccag | cagctcccac | 600 |
| tgggtatggt | ggtttctctc | agggagcctc | gtcatcgtca | ttgtttgctc | cacagtggc | 660 |
| ctaatcatat | gtgtgaaaag | aagaaagcca | aggggtgatg | tagtcaaggt | gacgtctctc | 720 |
| gtccagcgga | aaagacagga | ggcagaaggt | gaggccacag | tcattgaggc | cctgcaggcc | 780 |
| cctccggacg | tcaccacggt | ggccgtggag | gagacaatac | cctcattcac | ggggaggagc | 840 |
| ccaaaccact | ga | | | | | 852 |

<210> 117
 <211> 279
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| <400> 117 | | | | | | |
| atggctcgcc | tacagactgc | actcctgggt | gtyctcgtcc | tccttgctgt | ggcgcttcaa | 60 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gcaactgagg | caggccccta | cggcgccaac | atggaagaca | gcgtctgctg | ccgtgattac | 120 |
| gtccgttacc | gtctgcccct | gcgcgtggtg | aaacacttct | actggacctc | agactcctgc | 180 |
| ccgaggcctg | gcgtggtgtt | gctaaccttc | agggataagg | agatctgtgc | tgatcccaga | 240 |
| gtgccctggg | tgaagatgat | tctcaataag | ctgagccaa | | | 279 |

<210> 118
 <211> 291
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 118 | | | | | | |
| atgtgctgta | ccaagagttt | gtcctcggct | gctttgatgt | cagtgtctgt | actccacctc | 60 |
| tgccggcgaat | cagaagcagc | aagcaacttt | gactgtctgt | ttggatacac | agaccgtatt | 120 |
| cttcaccta | aatttatgt | gggcttcaca | cggcagctgg | ccaatgaagg | ctgtgacatc | 180 |
| aatgctatca | tctttcacac | aaagaaaaag | ttgtctgtgt | gcgcaaatcc | aaaacagact | 240 |
| tgggtgaaat | atattgtgcg | tctcctcagt | aaaaaagtca | agaacatgta | a | 291 |

<210> 119
 <211> 501
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|-----|
| <400> 119 | | | | | | |
| atgcattggg | gaaccctgtg | cggattcttg | tggctttggc | cctatctttt | ctatgtccaa | 60 |
| gctgtgcccc | tccaaaaagt | ccaagatgac | acaaaaacc | tcatcaagac | aattgtcacc | 120 |
| aggatcaatg | acatttcaca | cacgcagtca | gtctcctcca | aacagaaagt | caccggtttg | 180 |
| gacttcattc | ctgggctcca | ccccatcctg | accttatcca | agatggacca | gacactggca | 240 |
| gtctaccaac | agatcctcac | cagtatgcct | tccagaaacg | tgatccaaat | atccaacgac | 300 |
| ctggagaacc | tccgggatct | tcttcacgtg | ctggccttct | ctaagagctg | ccacttgccc | 360 |
| tggggccagt | gcctggagac | cttggacagc | ctgggggggtg | tcctggaagc | ttcaggctac | 420 |
| tccacagagg | tggtggccct | gagcaggctg | caggggtctc | tgaggagacat | gctgtggcag | 480 |
| ctggacctca | gccctgggtg | c | | | | 501 |

<210> 120
 <211> 480
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 120 | | | | | | |
| atggcttttag | agacgatctg | ccgaccctct | gggagaaaat | ccagcaagat | gcaagccttc | 60 |
| agaatctggg | atgttaacca | gaagaccttc | tatctgagga | acaaccaact | agttgctgga | 120 |
| tacttgcaag | gaccaaagt | caatttagaa | gaaaagatag | atgtggtacc | cattgagcct | 180 |
| catgctctgt | tcttggaat | ccatggagg | aagatgtgcc | tgtcctgtgt | caagtctggt | 240 |
| gatgagacca | gactccagct | ggaggcagtt | aacatcactg | acctgagcga | gaacagaaag | 300 |
| caggacaagc | gcttcgcctt | catccgctca | gacagtggcc | ccaccaccag | ttttgagtct | 360 |
| gccgcctgcc | ccggttggtt | cctctgcaca | gcgatggaag | ctgaccagcc | cgtcagcctc | 420 |
| accaatatgc | ctgacgaagg | cgtcatggtc | accaaattct | acttccagga | ggacgagtag | 480 |

<210> 121
 <211> 480
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 121 | | | | | | |
| atggcttttag | agacgatctg | ccgaccctct | gggagaaaat | ccagcaagat | gcaagccttc | 60 |
| agaatctggg | atgttaacca | gaagaccttc | tatctgagga | acaaccaact | agttgctgga | 120 |
| tacttgcaag | gaccaaagt | caatttagaa | gaaaagatag | atgtggtacc | cattgagcct | 180 |
| catgctctgt | tcttggaat | ccatggagg | aagatgtgcc | tgtcctgtgt | caagtctggt | 240 |
| gatgagacca | gactccagct | ggaggcagtt | aacatcactg | acctgagcga | gaacagaaag | 300 |
| caggacaagc | gcttcgcctt | catccgctca | gacagtggcc | ccaccaccag | ttttgagtct | 360 |
| gccgcctgcc | ccggttggtt | cctctgcaca | gcgatggaag | ctgaccagcc | cgtcagcctc | 420 |

accaatatgc ctgacgaagg cgtcatggtc accaaattct acttccagga ggacgagtag 480

<210> 122

<211> 480

<212> DNA

<213> Homo sapiens

<400> 122

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| atggcttttag | agacgatctg | ccgaccctct | gggagaaaat | ccagcaagat | gcaagccttc | 60 |
| agaatctggg | atgttaacca | gaagaccttc | tatctgagga | acaaccaact | agttgctgga | 120 |
| tacttgcaag | gaccaaattgt | caatttagaa | gaaaagatag | atgtggtacc | cattgagcct | 180 |
| catgctctgt | tcttggaat | ccatggagg | aagatgtgcc | tgtcctgtgt | caagtctggg | 240 |
| gatgagacca | gactccagct | ggaggcagtt | aacatcactg | acctgagcga | gaacagaaag | 300 |
| caggacaagc | gcttcgcctt | catccgctca | gacagtggcc | ccaccaccag | ttttgagtct | 360 |
| gccgcctgcc | ccggttggtt | cctctgcaca | gcgatggaag | ctgaccagcc | cgtcagcctc | 420 |
| accaatatgc | ctgacgaagg | cgtcatggtc | accaaattct | acttccagga | ggacgagtag | 480 |

<210> 123

<211> 504

<212> DNA

<213> Homo sapiens

<400> 123

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| atgcattggg | gaaccctgtg | eggattcttg | tggttttggc | cctatctttt | ctatgtccaa | 60 |
| gctgtgcccc | tccaaaaagt | ccaagatgac | acaaaaacc | tcatcaagac | aattgtcacc | 120 |
| aggatcaatg | acatttcaca | cacgcagtca | gtctcctcca | aacagaaagt | caccggtttg | 180 |
| gacttcattc | ctgggctcca | ccccatcctg | accttatcca | agatggacca | gacactggca | 240 |
| gtctaccaac | agatcctcac | cagtatgcct | tccagaaacg | tgatccaaat | atccaacgac | 300 |
| ctggagaacc | tccgggatct | tcttcacgtg | ctggccttct | ctaagagctg | ccacttgccc | 360 |
| tggggccagt | gcctggagac | cttggacagc | ctgggggggtg | tcctggaagc | ttcaggctac | 420 |
| tccacagagg | tggtggccct | gagcaggctg | caggggtctc | tgcaggacat | gctgtggcag | 480 |
| ctggacctca | gccctgggtg | ctaa | | | | 504 |

<210> 124

<211> 480

<212> DNA

<213> Homo sapiens

<400> 124

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| atggcttttag | agacgatctg | ccgaccctct | gggagaaaat | ccagcaagat | gcaagccttc | 60 |
| agaatctggg | atgttaacca | gaagaccttc | tatctgagga | acaaccaact | agttgctgga | 120 |
| tacttgcaag | gaccaaattgt | caatttagaa | gaaaagatag | atgtggtacc | cattgagcct | 180 |
| catgctctgt | tcttggaat | ccatggagg | aagatgtgcc | tgtcctgtgt | caagtctggg | 240 |
| gatgagacca | gactccagct | ggaggcagtt | aacatcactg | acctgagcga | gaacagaaag | 300 |
| caggacaagc | gcttcgcctt | catccgctca | gacagtggcc | ccaccaccag | ttttgagtct | 360 |
| gccgcctgcc | ccggttggtt | cctctgcaca | gcgatggaag | ctgaccagcc | cgtcagcctc | 420 |
| accaatatgc | ctgacgaagg | cgtcatggtc | accaaattct | acttccagga | ggacgagtag | 480 |

<210> 125

<211> 504

<212> DNA

<213> Homo sapiens

<400> 125

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| atgcattggg | gaaccctgtg | eggattcttg | tggttttggc | cctatctttt | ctatgtccaa | 60 |
| gctgtgcccc | tccaaaaagt | ccaagatgac | acaaaaacc | tcatcaagac | aattgtcacc | 120 |
| aggatcaatg | acatttcaca | cacgcagtca | gtctcctcca | aacagaaagt | caccggtttg | 180 |
| gacttcattc | ctgggctcca | ccccatcctg | accttatcca | agatggacca | gacactggca | 240 |
| gtctaccaac | agatcctcac | cagtatgcct | tccagaaacg | tgatccaaat | atccaacgac | 300 |
| ctggagaacc | tccgggatct | tcttcacgtg | ctggccttct | ctaagagctg | ccacttgccc | 360 |
| tggggccagt | gcctggagac | cttggacagc | ctgggggggtg | tcctggaagc | ttcaggctac | 420 |
| tccacagagg | tggtggccct | gagcaggctg | caggggtctc | tgcaggacat | gctgtggcag | 480 |
| ctggacctca | gccctgggtg | ctga | | | | 504 |

<210> 126
 <211> 504
 <212> DNA
 <213> Homo sapiens

<400> 126
 atgcattggg gaaccctgtg cggattcttg tggctttggc cctatctttt ctatgtccaa 60
 gctgtgcccc tccaaaaagt ccaagatgac accaaaaccc tcatcaagac aattgtcacc 120
 aggatcaatg acatttcaca cacgcagtca gtctcctcca aacagaaagt caccggtttg 180
 gacttcattc ctgggctcca ccccatcctg accttatcca agatggacca gacactggca 240
 gtctaccaac agatcctcac cagtatgcct tccagaaacg tgatccaaat atccaacgac 300
 ctggagaacc tccgggatct tcttcacgtg ctggccttct ctaagagctg ccacttgccc 360
 tggggcagtg gcctggagac cttggacagc ctggggggtg tcctggaagc ttcaggctac 420
 tccacagagg tggtgccctg gagcaggctg caggggtctc tgaggacat gctgtggcag 480
 ctggacctca gccctgggtg ctga 504

<210> 127
 <211> 705
 <212> DNA
 <213> Homo sapiens

<400> 127
 atgaggaaga ccaggctctg ggggctgctg tggatgctct ttgtctcaga actccgagct 60
 gcaactaaat taactgagga aaagtatgaa ctgaaagagg ggcagaccct ggatgtgaaa 120
 tgtgactaca cgctagagaa gtttgccagc agccagaaag cttggcagat aataagggac 180
 ggagagatgc ccaagaccct ggcatgcaca gagaggcctt caaagaattc ccatccagtc 240
 caagtgggga ggatcatact agaagactac catgatcatg gtttactgcg cgtccgaatg 300
 gtcaaccttc aagtgggaaga ttctggactg tatcagtgtg tgatctacca gcctcccaag 360
 gagcctcaca tgctgttcga tcgcatccgc ttggtggtga ccaagggttt ttcagggacc 420
 cctggctcca atgagaattc taccagaat gtgtataaga ttctcctac caccactaag 480
 gccttgtgccc cactctatac cagccccaga actgtgaccc aagctccacc caagtcaact 540
 gccgatgtct ccactcctga ctctgaaatc aaccttaca atgtgacaga tatcatcagg 600
 gttccggtgt tcaacattgt cattctcctg gctggtggat tcctgagtaa gagcctggtc 660
 ttctctgtcc tgtttgctgt cacgctgagg tcatttgtac cctag 705

<210> 128
 <211> 705
 <212> DNA
 <213> Homo sapiens

<400> 128
 atgaggaaga ccaggctctg ggggctgctg tggatgctct ttgtctcaga actccgagct 60
 gcaactaaat taactgagga aaagtatgaa ctgaaagagg ggcagaccct ggatgtgaaa 120
 tgtgactaca cgctagagaa gtttgccagc agccagaaag cttggcagat aataagggac 180
 ggagagatgc ccaagaccct ggcatgcaca gagaggcctt caaagaattc ccatccagtc 240
 caagtgggga ggatcatact agaagactac catgatcatg gtttactgcg cgtccgaatg 300
 gtcaaccttc aagtgggaaga ttctggactg tatcagtgtg tgatctacca gcctcccaag 360
 gagcctcaca tgctgttcga tcgcatccgc ttggtggtga ccaagggttt ttcagggacc 420
 cctggctcca atgagaattc taccagaat gtgtataaga ttctcctac caccactaag 480
 gccttgtgcc cactctatac cagccccaga actgtgaccc aagctccacc caagtcaact 540
 gccgatgtct ccactcctga ctctgaaatc aaccttaca atgtgacaga tatcatcagg 600
 gttccggtgt tcaacattgt cattctcctg gctggtggat tcctgagtaa gagcctggtc 660
 ttctctgtcc tgtttgctgt cacgctgagg tcatttgtac cctag 705

<210> 129
 <211> 270
 <212> DNA
 <213> Homo sapiens

<400> 129
 atgaagggcc ttgcagctgc cctccttgct ctcgtctgca ccatggccct ctgctcctgt 60
 gcacaagttg gtaccaacaa agagctctgc tgccctgtct atacctctg gcagattcca 120

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| caaaagttca | tagttgacta | ttctgaaacc | agccccagc | gccccaaagc | aggtgtcatc | 180 |
| ctcctaacca | agagaggccg | gcagatctgt | gctgacccca | ataagaagt | ggtccagaaa | 240 |
| tacatcagcg | acctgaagct | gaatgcctga | | | | 270 |

<210> 130
 <211> 270
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 130 | | | | | | |
| atgaagggcc | ttgcagctgc | cctccttgtc | ctcgtctgca | ccatggccct | ctgctcctgt | 60 |
| gcacaagttg | gtaccaacaa | agagctctgc | tgcctcgtct | atacctcctg | gcagattcca | 120 |
| caaaagttca | tagttgacta | ttctgaaacc | agccccagc | gccccaaagc | aggtgtcatc | 180 |
| ctcctaacca | agagaggccg | gcagatctgt | gctgacccca | ataagaagt | ggtccagaaa | 240 |
| tacatcagcg | acctgaagct | gaatgcctga | | | | 270 |

<210> 131
 <211> 504
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 131 | | | | | | |
| atgttgacag | tcgctctcct | agcccttctc | tgtgcctcag | cctctggcaa | tgccattcag | 60 |
| gccaggctct | cctcctatag | tggagagtat | ggaggtgggt | gtggaaagcg | attctctcat | 120 |
| tctggcaacc | agttggacgg | ccccatcacc | gccctccggg | tccgagtcaa | cacatactac | 180 |
| atcgtaggtc | ttcaggtgcg | ctatggcaag | gtgtggagcg | actatgtggg | tggtcgcaac | 240 |
| ggagacctgg | aggagatctt | tctgcaccct | ggggaatcag | tgatccaggt | ttctgggaag | 300 |
| tacaagtggg | acctgaagaa | gctggatatt | gtgacagaca | agggccgcta | tctgtctttt | 360 |
| gggaaagaca | gtggcacaa | tttcaatgcc | gtccccttgc | acccaacac | cgtgctccgc | 420 |
| ttcatcagtg | gccggtctgg | ttctctcatc | gatgccattg | gctgcaactg | ggatgtttac | 480 |
| cccactagct | gcagcagatg | ctga | | | | 504 |

<210> 132
 <211> 270
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 132 | | | | | | |
| atgaagggcc | ttgcagctgc | cctccttgtc | ctcgtctgca | ccatggccct | ctgctcctgt | 60 |
| gcacaagttg | gtaccaacaa | agagctctgc | tgcctcgtct | atacctcctg | gcagattcca | 120 |
| caaaagttca | tagttgacta | ttctgaaacc | agccccagc | gccccaaagc | aggtgtcatc | 180 |
| ctcctaacca | agagaggccg | gcagatctgt | gctgacccca | ataagaagt | ggtccagaaa | 240 |
| tacatcagcg | acctgaagct | gaatgcctga | | | | 270 |

<210> 133
 <211> 270
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 133 | | | | | | |
| atgaagggcc | ttgcagctgc | cctccttgtc | ctcgtctgca | ccatggccct | ctgctcctgt | 60 |
| gcacaagttg | gtaccaacaa | agagctctgc | tgcctcgtct | atacctcctg | gcagattcca | 120 |
| caaaagttca | tagttgacta | ttctgaaacc | agccccagc | gccccaaagc | aggtgtcatc | 180 |
| ctcctaacca | agagaggccg | gcagatctgt | gctgacccca | ataagaagt | ggtccagaaa | 240 |
| tacatcagcg | acctgaagct | gaatgcctga | | | | 270 |

<210> 134
 <211> 270
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| <400> 134 | | | | | | |
| atgaagggcc | ttgcagctgc | cctccttgtc | ctcgtctgca | ccatggccct | ctgctcctgt | 60 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gcacaagttg | gtaccaacaa | agagctctgc | tgcctcgtct | atacctcctg | gcagattcca | 120 |
| caaaagttca | tagttgacta | ttctgaaacc | agccccagct | gccccaaagg | aggtgtcatc | 180 |
| ctcctaacca | agagaggccg | gcagatctgt | gctgacccca | ataagaagtg | ggtccagaaa | 240 |
| tacatcagcg | acctgaagct | gaatgcctga | | | | 270 |

<210> 135
 <211> 270
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 135 | | | | | | |
| atgaagggcc | ttgcagctgc | cctccttgct | ctcgtctgca | ccatggccct | ctgctcctgt | 60 |
| gcacaagttg | gtaccaacaa | agagctctgc | tgcctcgtct | atacctcctg | gcagattcca | 120 |
| caaaagttca | tagttgacta | ttctgaaacc | agccccagct | gccccaaagg | aggtgtcatc | 180 |
| ctcctaacca | agagaggccg | gcagatctgt | gctgacccca | ataagaagtg | ggtccagaaa | 240 |
| tacatcagcg | acctgaagct | gaatgcctga | | | | 270 |

<210> 136
 <211> 498
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 136 | | | | | | |
| tgtgatctgc | ctcaaaccga | cagcctgggt | tctagaagga | ccttgatgct | cctggcacag | 60 |
| atgaggagaa | tctctctttt | ctcctgcttg | aaggacagac | atgacttttg | atttccccag | 120 |
| gaggagtttg | gcaaccagtt | ccaaaaggct | gaaaccatcc | ctgtcctcca | tgagatgac | 180 |
| cagcagatct | tcaatctctt | cagcacaaag | gactcatctg | ctgcttggga | tgagaccctc | 240 |
| ctagacaaat | tctacactga | actctaccag | cagctgaatg | acctggaagc | ctgtgtgata | 300 |
| caggggggtg | gggtgacaga | gactcccctg | atgaaggagg | actccattct | ggctgtgagg | 360 |
| aaatacttcc | aaagaatcac | tctctatctg | aaagagaaga | aatacagccc | ttgtgcctgg | 420 |
| gaggttgtca | gagcagaaat | catgagatct | ttttctttgt | caacaaactt | gcaagaaagt | 480 |
| ttaagaagta | aggaataa | | | | | 498 |

<210> 137
 <211> 192
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| <400> 137 | | | | | | |
| ttcggttaacc | aacacttggt | tggttctcac | ttggttgaag | ctttgtactt | ggtttgtggg | 60 |
| gaaagagggt | tcttctacac | tccaaagact | ggttacgggt | cttcttctag | aagagctcca | 120 |
| caaactggta | ttgttgaaac | atggttgact | tctatttggg | ctttgtacca | attggaaaac | 180 |
| tactgttaact | aa | | | | | 192 |

<210> 138
 <211> 1663
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 138 | | | | | | |
| atgcactcgc | tgggcttctt | ctctgtggcg | tggtctctgc | tcgccgctgc | gctgctcccg | 60 |
| ggtcctcgcg | aggcgcccg | cgcgcgcgc | gccttcgagt | ccggactcga | cctctcggac | 120 |
| gcggagcccc | acgcgggcga | ggccacggct | tatgcaagca | aagatctgga | ggagcagtta | 180 |
| cggctctgtg | ccagtgtaga | tgaactcatg | actgtactct | acccagaata | ttggaaaatg | 240 |
| tacaagtgtc | agctaaggaa | aggaggctgg | caacataaca | gagaacaggc | caacctcaac | 300 |
| tcaaggacag | aagagactat | aaaatttgct | gcagcacatt | ataatacaga | gatcttgaaa | 360 |
| agtattgata | atgagtggag | aaagactcaa | tgcatgccac | gggagggtgtg | tatagatgtg | 420 |
| gggaaggagt | ttggagtgcg | gacaaacacc | ttctttaaac | ctccatgtgt | gtccgtctac | 480 |
| agatgtgggg | gttgctgcaa | tagtgagggg | ctgcagtgtg | tgaacaccag | cacgagctac | 540 |
| ctcagcaaga | cgttatttga | aattacagt | cctctctctc | aaggcccca | accagtaaca | 600 |
| atcagttttg | ccaatcacac | ttcctgccc | tgcatgtcta | aactggatgt | ttacagacaa | 660 |
| gttcattcca | ttattagacg | ttccctgcc | gcaacactac | cacagtgtca | ggcagcgaac | 720 |
| aagacctgac | ccaccaatta | catgtggaat | aatcacatct | gcagatgcct | ggctcaggaa | 780 |

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|------|
| gattttatgt | tttctcggga | tgctggagat | gactcaacag | atggattcca | tgacatctgt | 840 |
| ggaccaaaca | aggagctgga | tgaagagacc | tgctcagtgtg | tctgcagagc | ggggcttcgg | 900 |
| cctgccagct | gtggacccca | caaagaacta | gacagaaact | catgccagtgt | tgctctgtaa | 960 |
| aacaaactct | tccccagcca | atgtggggcc | aaccgagaat | ttgatgaaaa | cacatgccag | 1020 |
| tgtgtatgta | aaagaacctg | ccccagaaat | caaccctaa | atcctggaaa | atgtgcctgt | 1080 |
| gaatgtacag | aaagtcaca | gaaatgcttg | ttaaaaggaa | agaagttcca | ccaccaaaca | 1140 |
| tgacagctgt | acagacggcc | atgtacgaac | cgccagaagg | cttgtgagcc | aggattttca | 1200 |
| tatagtgaag | aagtgtgtcg | ttgtgtccct | tcatattggc | aaagaccaca | aatgagctaa | 1260 |
| gattgtactg | ttttccagtt | catcgatttt | ctattatgga | aaactgtgtt | gccacagtag | 1320 |
| aactgtctgt | gaacagagag | acccttgtgg | gtccatgcta | acaaagacaa | aagtctgtct | 1380 |
| ttcctgaacc | atgtggataa | ctttacagaa | atggactgga | gctcatctgc | aaaaggcctc | 1440 |
| ttgtaaagac | tggttttctg | ccaatgacca | aacagccaag | attttctctt | tgtgatttct | 1500 |
| ttaaaagaat | gactatataa | tttatttcca | ctaaaaatat | tgtttctgca | ttcattttta | 1560 |
| tagcaacaac | aattggtaaa | actcactgtg | atcaatattt | ttatatcatg | caaaatatgt | 1620 |
| ttaaaataaa | atgaaaattg | tatttataaa | aaaaaaaaaa | aaa | | 1663 |

<210> 139
 <211> 1260
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|-------------|-------------|------------|------|
| <400> 139 | | | | | | |
| atgcactcgc | tggtgttctt | ctctgtggcg | tggttctctgc | tcgccgctgc | gctgctcccg | 60 |
| ggctcctcgc | aggcgcccgc | cgccgcccgc | gccttcgagt | cggactcga | cctctcggac | 120 |
| gcggagcccg | acgcgggcca | ggccacggct | tatgcaagca | aagatctgga | ggagcagtta | 180 |
| cggctctgtg | ccagtgtaga | tgaactcatg | actgtactct | accagaata | ttggaaaatg | 240 |
| tacaagtgtc | agctaaggaa | aggaggctgg | caacataaca | gagaacaggc | caacctcaac | 300 |
| tcaaggacag | aagagactat | aaaatttgct | gcagcacatt | ataatacaga | gatcttgaaa | 360 |
| agtattgata | atgagtggag | aaagactcaa | tgcatgccac | gggagggtgtg | tatagatgtg | 420 |
| gggaaggagt | ttggagtgcg | gacaaacacc | ttctttaaac | ctccatgtgt | gtccgtctac | 480 |
| agatgtgggg | gttgctgcaa | tagtgagggg | ctgcagtgcg | tgaacaccag | cacgagctac | 540 |
| ctcagcaaga | cgttatttga | aattacagtg | cctctctctc | aaggcccca | accagtaaca | 600 |
| atcagttttg | ccaatcacac | ttcctgcca | tgcatgtcta | aactggatgt | ttacagacaa | 660 |
| gttcattcca | ttattagacg | ttccctgcca | gcaacactac | cacagtgtca | ggcagcgaac | 720 |
| aagacctgcc | ccaccaatta | catgtggaat | aatcacatct | gcagatgcct | ggctcaggaa | 780 |
| gattttatgt | tttctcggga | tgctggagat | gactcaacag | atggattcca | tgacatctgt | 840 |
| ggaccaaaca | aggagctgga | tgaagagacc | tgctcagtgtg | tctgcagagc | ggggcttcgg | 900 |
| cctgccagct | gtggacccca | caaagaacta | gacagaaact | catgccagtgt | tgctctgtaa | 960 |
| aacaaactct | tccccagcca | atgtggggcc | aaccgagaat | ttgatgaaaa | cacatgccag | 1020 |
| tgtgtatgta | aaagaacctg | ccccagaaat | caaccctaa | atcctggaaa | atgtgcctgt | 1080 |
| gaatgtacag | aaagtcaca | gaaatgcttg | ttaaaaggaa | agaagttcca | ccaccaaaca | 1140 |
| tgacagctgt | acagacggcc | atgtacgaac | cgccagaagg | cttgtgagcc | aggattttca | 1200 |
| tatagtgaag | aagtgtgtcg | ttgtgtccct | tcatattggc | aaagaccaca | aatgagctaa | 1260 |

<210> 140
 <211> 192
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|-------------|------------|------------|------------|-----|
| <400> 140 | | | | | | |
| ttcgtaaac | aacacttgtg | tggtttctcac | ttggttgaag | ctttgtactt | ggtttgtggt | 60 |
| gaaagaggtt | tcttctacac | tccaaagact | ggttacgggt | cttcttctag | aagagctcca | 120 |
| caaactggta | ttggtgaaca | atgttgtact | tctatttgtt | ctttgtacca | attggaaaac | 180 |
| tactgttaact | aa | | | | | 192 |

<210> 141
 <211> 1663
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| <400> 141 | | | | | | |
| atgcactcgc | tggtgttctt | ctctgtggcg | tggttctctgc | tcgccgctgc | gctgctcccg | 60 |
| ggctcctcgc | aggcgcccgc | cgccgcccgc | gccttcgagt | cggactcga | cctctcggac | 120 |

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|------------|------|
| gcggagcccc | acgcggggcga | ggccacggct | tatgcaagca | aagatctgga | ggagcagtta | 180 |
| cgggtctgtgt | ccagtgtaga | tgaactcatg | actgtactct | acccagaata | ttggaaaatg | 240 |
| tacaagtgtc | agctaaggaa | aggaggctgg | caacataaca | gagaacaggc | caacctcaac | 300 |
| tcaaggacag | aagagactat | aaaatttgct | gcagcacatt | ataatacaga | gatcttgaaa | 360 |
| agtattgata | atgagtggag | aaagactcaa | tgcattgccac | gggaggtgtg | tatagatgtg | 420 |
| gggaaggagt | ttggagtgcg | gacaaacacc | ttctttaaac | ctccatgtgt | gtccgtctac | 480 |
| agatgtgggg | gttgctgcaa | tagtgagggg | ctgcagtgc | tgaacaccag | cacgagctac | 540 |
| ctcagcaaga | cgttatttga | aattacagt | cctctctctc | aaggcccaa | accagtaaca | 600 |
| atcagttttg | ccaatcacac | ttcctgccga | tgcattgtcta | aactggatgt | ttacagacaa | 660 |
| gttcattcca | ttattagacg | ttccctgcc | gcaacactac | cacagtgtca | ggcagcgaac | 720 |
| aagacctgcc | ccaccaatta | catgtggaat | aatcacatct | gcagatgcct | ggctcaggaa | 780 |
| gattttatgt | tttctcggga | tgctggagat | gactcaacag | atggattcca | tgacatctgt | 840 |
| ggaccaaaca | aggagctgga | tgaagagacc | tgctcagtgtg | tctgcagagc | ggggcttcgg | 900 |
| cctgccagct | gtggacccca | caaagaacta | gacagaaact | catgccagt | tgtctgtaaa | 960 |
| aacaaactct | tcccagcca | atgtggggcc | aaccgagaat | ttgatgaaa | cacatgccag | 1020 |
| tgtgtatgta | aaagaacctg | cccagaaat | caaccctaa | atcctggaaa | atgtgcctgt | 1080 |
| gaatgtacag | aaagtccaca | gaaatgcttg | ttaaaaggaa | agaagtcca | ccaccaaca | 1140 |
| tcagctgtt | acagacggcc | atgtacgaac | cgccagaagg | cttgtgagcc | aggattttca | 1200 |
| tatagtgaag | aagtgtgtcg | ttgtgtccct | tcatattggc | aaagaccaca | aatgagctaa | 1260 |
| gattgtactg | ttttccagt | catcgatttt | tattatgga | aaactgtgtt | gccacagtag | 1320 |
| aactgtctgt | gaacagagag | acccttgttg | gtccatgcta | acaaagacaa | aagtctgtct | 1380 |
| ttcctgaacc | atgtggataa | ctttacagaa | atggactgga | gtcatctctg | aaaaggcctc | 1440 |
| ttgtaaagac | tggtttttctg | ccaatgacca | aacagccaag | attttcctct | tgtgatttct | 1500 |
| ttaaaagaat | gactatataa | tttattttcca | ctaaaatat | tgtttctgca | ttcattttta | 1560 |
| tagcaacaac | aattggtaaa | actcactgtg | atcaatat | ttatatcatg | caaaatatgt | 1620 |
| ttaaaataaa | atgaaaattg | tatttataaa | aaaaaaaaa | aaa | | 1663 |

<210> 142

<211> 1260

<212> DNA

<213> Homo sapiens

<400> 142

| | | | | | | |
|-------------|-------------|------------|-------------|------------|------------|------|
| atgcaactgc | tggtgttctt | ctctgtggcg | tggtctctgc | tcgccgctgc | gctgctcccg | 60 |
| ggctctcgcg | aggcgcccg | cgccgcccgc | gccttcgagt | ccggactcga | cctctcggac | 120 |
| gcggagcccc | acgcggggcga | ggccacggct | tatgcaagca | aagatctgga | ggagcagtta | 180 |
| cgggtctgtgt | ccagtgtaga | tgaactcatg | actgtactct | acccagaata | ttggaaaatg | 240 |
| tacaagtgtc | agctaaggaa | aggaggctgg | caacataaca | gagaacaggc | caacctcaac | 300 |
| tcaaggacag | aagagactat | aaaatttgct | gcagcacatt | ataatacaga | gatcttgaaa | 360 |
| agtattgata | atgagtggag | aaagactcaa | tgcattgccac | gggaggtgtg | tatagatgtg | 420 |
| gggaaggagt | ttggagtgcg | gacaaacacc | ttctttaaac | ctccatgtgt | gtccgtctac | 480 |
| agatgtgggg | gttgctgcaa | tagtgagggg | ctgcagtgc | tgaacaccag | cacgagctac | 540 |
| ctcagcaaga | cgttatttga | aattacagt | cctctctctc | aaggcccaa | accagtaaca | 600 |
| atcagttttg | ccaatcacac | ttcctgccga | tgcattgtcta | aactggatgt | ttacagacaa | 660 |
| gttcattcca | ttattagacg | ttccctgcc | gcaacactac | cacagtgtca | ggcagcgaac | 720 |
| aagacctgcc | ccaccaatta | catgtggaat | aatcacatct | gcagatgcct | ggctcaggaa | 780 |
| gattttatgt | tttctcggga | tgctggagat | gactcaacag | atggattcca | tgacatctgt | 840 |
| ggaccaaaca | aggagctgga | tgaagagacc | tgctcagtgtg | tctgcagagc | ggggcttcgg | 900 |
| cctgccagct | gtggacccca | caaagaacta | gacagaaact | catgccagt | tgtctgtaaa | 960 |
| aacaaactct | tcccagcca | atgtggggcc | aaccgagaat | ttgatgaaa | cacatgccag | 1020 |
| tgtgtatgta | aaagaacctg | cccagaaat | caaccctaa | atcctggaaa | atgtgcctgt | 1080 |
| gaatgtacag | aaagtccaca | gaatgcttg | ttaaaaggaa | agaagtcca | ccaccaaca | 1140 |
| tcagctgtt | acagacggcc | atgtacgaac | cgccagaagg | cttgtgagcc | aggattttca | 1200 |
| tatagtgaag | aagtgtgtcg | ttgtgtccct | tcatattggc | aaagaccaca | aatgagctaa | 1260 |

<210> 143

<211> 441

<212> DNA

<213> Homo sapiens

<400> 143

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| atgcttgccg | gtgccgggag | gcctggcctc | ccccagggcc | gccacctctg | ctggttgctc | 60 |
| tgtgctttca | ccttaaagct | ctgccaaagca | gaggctcccg | tgcaggaaga | gaagctgtca | 120 |

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| gcaagcacct | caaatttgc | atgctggctg | gtggaagagt | ttgtggtagc | agaagagtgc | 180 |
| tctccatgct | ctaatttccg | ggctaaaact | acccctgagt | gtggtccac | aggatatgta | 240 |
| gagaaaatca | catgcagctc | atctaagaga | aatgagttca | aaagctgccg | ctcagctttg | 300 |
| atggaacaac | gcttattttg | gaagttcgaa | ggggctgtcg | tgtgtgtggc | cctgatcttc | 360 |
| gcttgtcttg | tcatcattcg | tcagcgacaa | ttggacagaa | aggctctgga | aaaggtccgg | 420 |
| aagcaaatcg | agtccatata | g | | | | 441 |

<210> 144
 <211> 177
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| <400> 144 | | | | | | |
| ttcggttaacc | aacactttgtg | tggttctcac | ttggttgaag | ctttgtactt | ggtttgtggg | 60 |
| gaaagagggtt | tcttctacac | tccaaagact | ggtggtgggc | caggtaagag | aggtattggt | 120 |
| gaacaatggt | gtacttctat | ttgttctttg | taccaattgg | aaaactactg | taactaa | 177 |

<210> 145
 <211> 177
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|-----|
| <400> 145 | | | | | | |
| ttcggttaacc | aacactttgtg | tggttctcac | ttggttgaag | ctttgtactt | ggtttgtggg | 60 |
| gaaagagggtt | tcttctacac | tccaaagact | ggtggtgggc | caggtaagag | aggtattggt | 120 |
| gaacaatggt | gtacttctat | ttgttctttg | taccaattgg | aaaactactg | taactaa | 177 |

<210> 146
 <211> 441
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|-------------|------------|------------|------------|-----|
| <400> 146 | | | | | | |
| atgcttgccg | gtgccgggag | gcctggcctc | ccccagggcc | gccacctctg | ctggttgctc | 60 |
| tgtgctttca | ccttaaagct | ctgccaaagca | gaggctcccg | tgcaggaaga | gaagctgtca | 120 |
| gcaagcacct | caaatttgc | atgctggctg | gtggaagagt | ttgtggtagc | agaagagtgc | 180 |
| tctccatgct | ctaatttccg | ggctaaaact | acccctgagt | gtggtccac | aggatatgta | 240 |
| gagaaaatca | catgcagctc | atctaagaga | aatgagttca | aaagctgccg | ctcagctttg | 300 |
| atggaacaac | gcttattttg | gaagttcgaa | ggggctgtcg | tgtgtgtggc | cctgatcttc | 360 |
| gcttgtcttg | tcatcattcg | tcagcgacaa | ttggacagaa | aggctctgga | aaaggtccgg | 420 |
| aagcaaatcg | agtccatata | g | | | | 441 |

<210> 147
 <211> 579
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|-----|
| <400> 147 | | | | | | |
| atgggtgttc | acgaatgtcc | agcttggttg | tggttgttgt | tgtctttggt | gtctttgcca | 60 |
| ttgggtttgc | cagttttggg | tgctccacca | agattgattt | gtgattctag | agttttggaa | 120 |
| agataacttg | tggaaagctaa | ggaagctgaa | caaattacca | ctggttgtgc | tgaacactgt | 180 |
| tctttgaacg | aacaaattac | tggtccagat | actaagggtta | acttctacgc | ttggaagaga | 240 |
| atggaagtgt | gtcaacaagc | tggtgaagtt | tggaaggtt | tggttttgtt | gtctgaagct | 300 |
| gttttgagag | gtcaagcttt | gttggttcaa | tcctctcaac | catgggaacc | attgcaatta | 360 |
| cacgttgata | aggctgtttc | tggtttgaga | tctttgacta | ccttggtgag | agctttgaga | 420 |
| gtcctaaaagg | aagctatttc | tccaccagat | gccgcttctg | ccgctccatt | gagaactatt | 480 |
| actgctgata | ctttcagaaa | gttggttcaga | gtttactcta | acttcttgag | aggttaagttg | 540 |
| aagttgtaca | ctggtgaagc | ttgtagaact | ggtgataga | | | 579 |

<210> 148
 <211> 579
 <212> DNA
 <213> Homo sapiens

```

<400> 148
atgggtgttc acgaatgtcc agcttggttg tgggtgttgt tgtctttgtt gtctttgcc 60
ttgggtttgc cagttttggg tgctccacca agattgattt gtgattctag agttttggaa 120
agatacttgt tgggaagctaa ggaagctgaa caaattacca ctggttgtgc tgaacactgt 180
tctttgaacg aacaaattac tgttccagat actaagggtta acttctacgc ttggaagaga 240
atggaagttg gtcaacaagc tgttgaagtt tggcaagggt tggctttgtt gtctgaagct 300
gttttgagag gtcaagcttt gttggttcaa tcctctcaac catgggaacc attgcaatta 360
cacgttgata aggctgtttc tggtttgaga tctttgacta ccttggtgag agctttgaga 420
gctcaaaagg aagctatttc tccaccagat gccgcttctg ccgctccatt gagaactatt 480
actgctgata ctttcagaaa gttgttcaga gtttactcta acttcttgag aggtaagttg 540
aagttgtaca ctggtgaagc ttgtagaact ggtgataga 579

```

```

<210> 149
<211> 579
<212> DNA
<213> Homo sapiens

```

```

<400> 149
atgggtgttc acgaatgtcc agcttggttg tgggtgttgt tgtctttgtt gtctttgcc 60
ttgggtttgc cagttttggg tgctccacca agattgattt gtgattctag agttttggaa 120
agatacttgt tgggaagctaa ggaagctgaa caaattacca ctggttgtgc tgaacactgt 180
tctttgaacg aacaaattac tgttccagat actaagggtta acttctacgc ttggaagaga 240
atggaagttg gtcaacaagc tgttgaagtt tggcaagggt tggctttgtt gtctgaagct 300
gttttgagag gtcaagcttt gttggttcaa tcctctcaac catgggaacc attgcaatta 360
cacgttgata aggctgtttc tggtttgaga tctttgacta ccttggtgag agctttgaga 420
gctcaaaagg aagctatttc tccaccagat gccgcttctg ccgctccatt gagaactatt 480
actgctgata ctttcagaaa gttgttcaga gtttactcta acttcttgag aggtaagttg 540
aagttgtaca ctggtgaagc ttgtagaact ggtgataga 579

```

```

<210> 150
<211> 579
<212> DNA
<213> Homo sapiens

```

```

<400> 150
atgggtgttc acgaatgtcc agcttggttg tgggtgttgt tgtctttgtt gtctttgcc 60
ttgggtttgc cagttttggg tgctccacca agattgattt gtgattctag agttttggaa 120
agatacttgt tgggaagctaa ggaagctgaa caaattacca ctggttgtgc tgaacactgt 180
tctttgaacg aacaaattac tgttccagat actaagggtta acttctacgc ttggaagaga 240
atggaagttg gtcaacaagc tgttgaagtt tggcaagggt tggctttgtt gtctgaagct 300
gttttgagag gtcaagcttt gttggttcaa tcctctcaac catgggaacc attgcaatta 360
cacgttgata aggctgtttc tggtttgaga tctttgacta ccttggtgag agctttgaga 420
gctcaaaagg aagctatttc tccaccagat gccgcttctg ccgctccatt gagaactatt 480
actgctgata ctttcagaaa gttgttcaga gtttactcta acttcttgag aggtaagttg 540
aagttgtaca ctggtgaagc ttgtagaact ggtgataga 579

```

```

<210> 151
<211> 600
<212> DNA
<213> Homo sapiens

```

```

<400> 151
atgggggtgc acgaatgtcc tgcctggctg tggcttctcc tgtccctgct gtcgctccct 60
ctgggcctcc cagtctctggg cgccccacca cgcctcatct gtgacagccg agtcctggag 120
agggtacctc tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
atggaggtcg ggcagcaggc cgtagaagtc tggcagggcc tggcctgct gtcggaagct 300
gtcctgctgg ggcaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
gcatgtggat aaagccgtca gtggccttcg cagcctcacc actctgcttc gggctctgcg 420
agcccagaag gaagccatct cccctccaga tgcggcctca gctgctccac tccgaacaat 480
cactgctgac actttccgca aactcttccg agtctactcc aatttctctc ggggaaagct 540
gaagctgtac acagggggagg cctgcaggac aggggacaga tgaccagggtg tgtccacctg 600

```

<210> 152
 <211> 324
 <212> DNA
 <213> Homo sapiens

| | | | | | | | |
|------------|------------|------------|------------|------------|------------|--|-----|
| <400> 152 | | | | | | | |
| atgaaagctc | tctgtctcct | cctcctccct | gtcctggggc | tgttggtgtc | tagcaagacc | | 60 |
| ctgtgctcca | tggaagaagc | catcaatgag | aggatccagg | aggtcgccgg | ctccctaata | | 120 |
| tttagggcaa | taagcagcat | tggcctggag | tgccagagcg | tcacctccag | gggggacctg | | 180 |
| gctacttgcc | cccagggtt | cgccgtcacc | ggctgcactt | gtggctccgc | ctgtggctcg | | 240 |
| tgggatgtgc | gcgccgagac | cacatgtcac | tgccagtgcg | cgggcatgga | ctggaccgga | | 300 |
| gcgcgctgct | gtcgtgtgca | gccc | | | | | 324 |

<210> 153
 <211> 330
 <212> DNA
 <213> Homo sapiens

| | | | | | | | |
|------------|------------|------------|------------|------------|------------|--|-----|
| <400> 153 | | | | | | | |
| atgaaagctc | tctgtctcct | cctcctccct | gtcctggggc | tgttggtgtc | tagcaagacc | | 60 |
| ctgtgctcca | tggaagaagc | catcaatgag | aggatccagg | aggtcgccgg | ctccctaata | | 120 |
| tttagggcaa | taagcagcat | tggcctggag | tgccagagcg | tcacctccag | gggggacctg | | 180 |
| gctacttgcc | cccagggtt | cgccgtcacc | ggctgcactt | gtggctccgc | ctgtggctcg | | 240 |
| tgggatgtgc | gcgccgagac | cacatgtcac | tgccagtgcg | cgggcatgga | ctggaccgga | | 300 |
| gcgcgctgct | gtcgtgtgca | gccctaata | | | | | 330 |

<210> 154
 <211> 330
 <212> DNA
 <213> Homo sapiens

| | | | | | | | |
|------------|------------|------------|------------|------------|------------|--|-----|
| <400> 154 | | | | | | | |
| atgaaagctc | tctgtctcct | cctcctccct | gtcctggggc | tgttggtgtc | tagcaagacc | | 60 |
| ctgtgctcca | tggaagaagc | catcaatgag | aggatccagg | aggtcgccgg | ctccctaata | | 120 |
| tttagggcaa | taagcagcat | tggcctggag | tgccagagcg | tcacctccag | gggggacctg | | 180 |
| gctacttgcc | cccagggtt | cgccgtcacc | ggctgcactt | gtggctccgc | ctgtggctcg | | 240 |
| tgggatgtgc | gcgccgagac | cacatgtcac | tgccagtgcg | cgggcatgga | ctggaccgga | | 300 |
| gcgcgctgct | gtcgtgtgca | gccctgataa | | | | | 330 |

<210> 155
 <211> 1009
 <212> DNA
 <213> Homo sapiens

| | | | | | | | |
|-------------|------------|-------------|-------------|------------|-------------|--|------|
| <400> 155 | | | | | | | |
| atgggggtgc | acgaatgtcc | tgcctggctg | tggtctctcc | tgtccctgct | gtcgctccct | | 60 |
| ctgggcctcc | cagtctctgg | cgccccacca | cgctcatct | gtgacagccg | agtcctggag | | 120 |
| aggtacctct | tggaggccaa | ggaggccgag | aatatcacga | cgggctgtgc | tgaacctgct | | 180 |
| agcttgaatg | agaatatcac | tgtcccagac | accaaagtta | atttctatgc | ctggaagagg | | 240 |
| atggaggtcg | ggcagcaggg | cgtagaagtc | tggcagggcc | tggccctgct | gtcggaaagt | | 300 |
| gtcctgcggg | gccaggccct | gttgggtcaac | tcttcccagc | cgtgggagcc | cctgcagctg | | 360 |
| catgtggata | aagccgtcag | tggccttcgc | agcctcacca | ctctgcttcg | ggctctgcga | | 420 |
| gcccagaagg | aagccatctc | ccctccagat | gcggcctcag | ctgctccact | ccgaacaatc | | 480 |
| actgctgaca | ctttccgcaa | actcttccga | gtctactcca | atttctcccg | gggaaagctg | | 540 |
| aagctgtata | caggggaggg | ctgcaggaca | ggggacagat | gaccagggtg | gtccacctgg | | 600 |
| gcataatccac | cacctccctc | accaacattg | cttgtgccac | accctcccc | gccactcctg | | 660 |
| aaccccgctg | aggggctctc | agctcagcgc | cagcctgtcc | catggacact | ccagtgccag | | 720 |
| caatgacatc | tcaggggcca | gaggaactgt | ccagagagca | actctgagat | ctaaggatgt | | 780 |
| cacagggcca | acttgagggc | ccagagcagg | aagcattcag | agagcagctt | taaaactcagg | | 840 |
| gacagagcca | tgttgggaag | acgcctgagc | tcactcgga | ccctgcaaaa | tttgatgcca | | 900 |
| ggacacgctt | tggaggcgat | ttacctgttt | tcgcacctac | catcagggac | aggatgacct | | 960 |
| ggagaactta | ggtggcaagc | tgtgacttct | ccagggtctca | cgggcatgg | | | 1009 |

```

<210> 156
<211> 324
<212> DNA
<213> Homo sapiens

<400> 156
atgaaagctc tctgtctcct cctcctccct gtcctggggc tgttggtgtc tagcaagacc 60
ctgtgctcca tggaagaagc catcaatgag aggatccagg aggtcgccgg ctccctaata 120
tttagggcaa taagcagcat tggcctggag tgccagagcg tcacctccag gggggacctg 180
gctacttgcc cccgaggctt cgccgtcacc ggctgcactt gtggctccgc ctgtggctcg 240
tgggatgtgc gcgccgagac cacatgtcac tgccagtgcg cgggcatgga ctggaccgga 300
gcgcgctgct gtcgtgtgca gccc 324

<210> 157
<211> 324
<212> DNA
<213> Homo sapiens

<400> 157
atgaaagctc tctgtctcct cctcctccct gtcctggggc tgttggtgtc tagcaagacc 60
ctgtgctcca tggaagaagc catcaatgag aggatccagg aggtcgccgg ctccctaata 120
tttagggcaa taagcagcat tggcctggag tgccagagcg tcacctccag gggggacctg 180
gctacttgcc cccgaggctt cgccgtcacc ggctgcactt gtggctccgc ctgtggctcg 240
tgggatgtgc gcgccgagac cacatgtcac tgccagtgcg cgggcatgga ctggaccgga 300
gcgcgctgct gtcgtgtgca gccc 324

<210> 158
<211> 576
<212> DNA
<213> Homo sapiens

<400> 158
atgggtgttc acgaatgtcc agcttggttg tggctgttgt tgtctctttt gtctttgcca 60
ctcggtttgc cagttttggg tgctccacca agattgattt gtgattctag agttttggaa 120
agatacttgt tggaagctaa ggaagctgaa aacattacca ctggttggtc tgaacactgt 180
tctttgaacg aaaacattac tgttccagat actaagggtta acttctacgc ttggaagaga 240
atggaagtgt gtcaacaagc tgttgaagtt tggcaagggtt tggctttggt gtctgaagct 300
gttttgagag gtcaagcttt gttggttaac tcctctcaac catgggaacc attgcaatta 360
cacgttgata aggctgtttc tggtttgaga tctttgacta ccttgttgag agctttgaga 420
gtcaaaaagg aagctatttc tccaccagat gccgcttctg ccgctccatt gagaactatt 480
actgctgata ctttcagaaa gttgttcaga gtttactcta acttcttgag aggtaaagtgt 540
aagttgtaca ctggtgaagc ttgtagaact ggtgat 576

<210> 159
<211> 576
<212> DNA
<213> Homo sapiens

<400> 159
atgggggtgc acgaatgtcc tgccctggctg tggcttctcc tgtccctgct gtcgctccct 60
ctgggcctcc cagtcctggg cgctccacca agattgattt gtgattctag agttttggaa 120
agatacttgt tggaagctaa ggaagctgaa aacattacca ctggttggtc tgaacactgt 180
tctttgaacg aaaacattac tgttccagat actaagggtta acttctacgc ttggaagaga 240
atggaagtgt gtcaacaagc tgttgaagtt tggcaagggtt tggctttggt gtctgaagct 300
gttttgagag gtcaagcttt gttggttaac tcctctcaac catgggaacc attgcaatta 360
cacgttgata aggctgtttc tggtttgaga tctttgacta ccttgttgag agctttgaga 420
gtcaaaaagg aagctatttc tccaccagat gccgcttctg ccgctccatt gagaactatt 480
actgctgata ctttcagaaa gttgttcaga gtttactcta acttcttgag aggtaaagtgt 540
aagttgtaca ctggtgaagc ttgtagaact ggtgat 576

<210> 160
<211> 441

```

<212> DNA
<213> Homo sapiens

<400> 160
atgcttgccg gtgccgggag gcctggcctc cccagggcc gccacctctg ctggttgctc 60
tgtgtcttca ccttaaagct ctgccaaagc gaggtcccg tgcaggaaga gaagctgtca 120
gcaagcacct caaatttgcc atgctggctg gtggaagagt ttgtggtagc agaagagtgc 180
tctccatgct ctaatttcg ggctaaaact acccctgagt gtggtccac aggatatgta 240
gagaaaatca catgcagctc atctaagaga aatgagttca aaagctgccg ctgagctttg 300
atggaacaac gcttattttg gaagttcgaa ggggctgtcg tgtgtgtggc cctgatcttc 360
gcttgctctg tcatcattcg tcagcgacaa ttggacagaa aggcctctgga aaagggtccg 420
aagcaaatcg agtccatata g 441

<210> 161
<211> 576
<212> DNA
<213> Homo sapiens

<400> 161
atgggcgtgc atgagtgtcc cgcttggtgc tggctgctgc tcagcctgct gagcctgtcc 60
ctgggactgc ccgtgctggg tgcaccccc aggcctgatct gcgattccag ggtgctggag 120
cggatatttg tggaaagcaa agaagctgag aacatcacca ctggctgctc cgagcattgt 180
tccctgaacg agaacatcac cgtgcccgat accaaggtga acttttacgc ttggaaacgg 240
atggaagtgg gccagcaagc tgtggaggtg tggcaaggct tcgctctcct gagcgaggcc 300
gtgctgaggg gacaggctct gctggtgaac agcagccagc catgggaacc tctccaactg 360
cacgtggaca aggcctgtag cggactgcgg agcctgacca ccctgctgag ggcactgggc 420
gctcaaaaag aggcatttag cccacctgac gccgccagcg ccgcacccct gaggaccatc 480
accgccgata ccttcgggaa gctgtttcgg gtgtacagca acttcctgag gggcaagctc 540
aaactgtata ccggcgaggc ttgtcggacc ggcgac 576

<210> 162
<211> 576
<212> DNA
<213> Homo sapiens

<400> 162
atgggcgtgc atgagtgtcc cgcttggtgc tggctgctgc tcagcctgct gagcctgtcc 60
ctgggactgc ccgtgctggg tgcaccccc aggcctgatct gcgattccag ggtgctggag 120
cggatatttg tggaaagcaa agaagctgag aacatcacca ctggctgctc cgagcattgt 180
tccctgaacg agaacatcac cgtgcccgat accaaggtga acttttacgc ttggaaacgg 240
atggaagtgg gccagcaagc tgtggaggtg tggcaaggct tcgctctcct gagcgaggcc 300
gtgctgaggg gacaggctct gctggtgaac agcagccagc catgggaacc tctccaactg 360
cacgtggaca aggcctgtag cggactgcgg agcctgacca ccctgctgag ggcactgggc 420
gctcaaaaag aggcatttag cccacctgac gccgccagcg ccgcacccct gaggaccatc 480
accgccgata ccttcgggaa gctgtttcgg gtgtacagca acttcctgag gggcaagctc 540
aaactgtata ccggcgaggc ttgtcggacc ggcgac 576

<210> 163
<211> 1290
<212> DNA
<213> Homo sapiens

<400> 163
atgtgtcctg gggcactgtg ggtggccctg cccctgctgt ccctgctggc tggctcccta 60
caggggaagc cactgcagag ctggggacga gggctctgtg ggggaaacgc ccacagccca 120
ctgggggtgc ctggaggtgg gctgctgag cacaccttca acctgaagat gttctggag 180
aacgtgaagg tggatttctc gcgcagcctt aacctgagtg gggctccctc gcaggacaaa 240
accagggtgg agccgccgca gtacatgatt gacctgtaca acaggtacac gtccgataag 300
tcgactacgc cagcgtccaa cattgtgcgg agcttcagca tggaaagtgc catctccata 360
actgccacag aggaattccc cttccagaag cacatcttgc tcttcaacat ctccattcct 420
aggcatgagc agatcaccag agctgagctc cgactctatg tctcctgtca aaatcacgtg 480
gacccctctc atgacctgaa aggaagcgtg gtcatttatg atgttctgga tggaaacagat 540
gctggggata gtgctacaga gaccaagacc ttcctggtgt cccaggacat tcaggatgag 600

| | | | | | | |
|-------------|------------|-------------|------------|-------------|-------------|------|
| ggctggggaga | ccttggaagt | gtccagcgcc | gtgaagcgct | gggtccggtc | cgactccacc | 660 |
| aagagcaaaa | ataagctgga | agtgactgtg | gagagccaca | ggaagggctg | cgacacgctg | 720 |
| gacatcagtg | ccccccagg | ttccagaaac | ctgcccttct | ttgttgtctt | ctccaatgac | 780 |
| cacagcagtg | ggaccaagga | gaccaggctg | gagctgaggg | agatgatcag | ccatgaacaa | 840 |
| gagagcgtgc | tcaagaagct | gtccaaggac | ggctccacag | aggcagggtga | gagcagtcac | 900 |
| gaggaggaca | cggatggcca | cgtggctgcg | gggtcgactt | tagccaggcg | gaaaaggagc | 960 |
| gccggggctg | gcagccactg | tcaaaagacc | tccctgcggg | taaacttcga | ggacatcggc | 1020 |
| tgggacagct | ggatcattgc | acccaaggag | tatgaagcct | acgagtgtaa | gggcggctgc | 1080 |
| ttcttccccct | tggctgacga | tgtgacgccg | acgaaacacg | ctatcgtgca | gaccctgggtg | 1140 |
| catctcaagt | ccccacaaa | gggtgggcaag | gcctgctgtg | tgcccaccaa | actgagcccc | 1200 |
| atctccgtcc | tctacaagga | tgacatgggg | gtgcccaccc | tcaagtacca | ttacgagggc | 1260 |
| atgagcgtgg | cagagtgtgg | gtgcaggtag | | | | 1290 |

<210> 164
 <211> 288
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|-----|
| <400> 164 | | | | | | |
| atgtgctgta | ccaagagttt | gtcctctggct | gctttgatgt | cagtgtctgt | actccacctc | 60 |
| tgccggcgaat | cagaagcagc | aagcaacttt | gactgctgtc | ttggatacac | agaccgtatt | 120 |
| cttcataccta | aattttattgt | gggcttcaca | cggcagctgg | ccaatgaagg | ctgtgacatc | 180 |
| aatgctatca | tctttcacac | aaagaaaaag | ttgtctgtgt | gcgcaaatcc | aaaacagact | 240 |
| tgggtgaaat | atattgtgcg | tctcctcagt | aaaaaagtca | agaacatg | | 288 |

<210> 165
 <211> 291
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|-----|
| <400> 165 | | | | | | |
| atgtgctgta | ccaagagttt | gtcctctggct | gctttgatgt | cagtgtctgt | actccacctc | 60 |
| tgccggcgaat | cagaagcagc | aagcaacttt | gactgctgtc | ttggatacac | agaccgtatt | 120 |
| cttcataccta | aattttattgt | gggcttcaca | cggcagctgg | ccaatgaagg | ctgtgacatc | 180 |
| aatgctatca | tctttcacac | aaagaaaaag | ttgtctgtgt | gcgcaaatcc | aaaacagact | 240 |
| tgggtgaaat | atattgtgcg | tctcctcagt | aaaaaagtca | agaacatgta | a | 291 |

<210> 166
 <211> 291
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|-----|
| <400> 166 | | | | | | |
| atgtgctgta | ccaagagttt | gtcctctggct | gctttgatgt | cagtgtctgt | actccacctc | 60 |
| tgccggcgaat | cagaagcagc | aagcaacttt | gactgctgtc | ttggatacac | agaccgtatt | 120 |
| cttcataccta | aattttattgt | gggcttcaca | cggcagctgg | ccaatgaagg | ctgtgacatc | 180 |
| aatgctatca | tctttcacac | aaagaaaaag | ttgtctgtgt | gcgcaaatcc | aaaacagact | 240 |
| tgggtgaaat | atattgtgcg | tctcctcagt | aaaaaagtca | agaacatgta | a | 291 |

<210> 167
 <211> 291
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|-----|
| <400> 167 | | | | | | |
| atgtgctgta | ccaagagttt | gtcctctggct | gctttgatgt | cagtgtctgt | actccacctc | 60 |
| tgccggcgaat | cagaagcagc | aagcaacttt | gactgctgtc | ttggatacac | agaccgtatt | 120 |
| cttcataccta | aattttattgt | gggcttcaca | cggcagctgg | ccaatgaagg | ctgtgacatc | 180 |
| aatgctatca | tctttcacac | aaagaaaaag | ttgtctgtgt | gcgcaaatcc | aaaacagact | 240 |
| tgggtgaaat | atattgtgcg | tctcctcagt | aaaaaagtca | agaacatgta | a | 291 |

<210> 168
 <211> 291

```

<212> DNA
<213> Homo sapiens

<400> 168
atgtgctgta ccaagagttt gctcctgggt gctttgatgt cagtgtgtgt actccacctc      60
tgccgcgaat cagaagcagc aagcaacttt gactgctgtc ttggatacac agaccgtatt      120
cttcaccta aatttatgtt gggcttgaca cggcagctgg ccaatgaagg ctgtgacatc      180
aatgctatca tctttcacac aaagaaaaag ttgtctgtgt gcgcaaattc aaaacagact      240
tggtgaaat atattgtgcg tctcctcagt aaaaaagtca agaactgta a                291

<210> 169
<211> 1290
<212> DNA
<213> Homo sapiens

<400> 169
atgtgtcctg gggcactgtg ggtggccctg cccctgctgt ccctgctggc tggctcccta      60
caggggaagc cactgcagag ctggggacga gggctctgtg ggggaaacgc ccacagccca      120
ctgggggtgc ctggagggtg gctgcctgag cacaccttca acctgaagat gtttctggag      180
aacgtgaagg tggatttcct gcgcagcctt aacctgagtg gggtccttcc gcaggacaaa      240
accagggtgg agccgcgcga gtacatgatt gacctgtaca acaggtacac gtccgataag      300
tcgactacgc cagcgtccaa catttgtcgg agcttcagca tgggaagatgc catctccata      360
actgccacag aggacttccc ctccagaag cacatcttgc tcttcaacat ctccattcct      420
aggcatgagc agatcaccag agctgagctc cgactctatg tctcctgtca aaatcacgtg      480
gacccctctc atgacctgaa aggaagcgtg gtcatttatg atgttctgga tggaacagat      540
gcctgggata gtgctacaga gaccaagacc ttcctggtgt cccaggacat tcaggatgag      600
ggctgggaga ccttggaagt gtccagcgcc gtgaagcgct gggtcgggtc cgactccacc      660
aagagcaaaa ataagctgga agtgactgtg gagagccaca ggaagggtg cgacacgtg      720
gacatcagtg tccccccagg tccagaaaac ctgcccttct ttgttgtctt ctccaatgac      780
cacagcagtg ggaccaagga gaccaggctg gagctgaggg agatgatcag ccatgaacaa      840
gagagcgtgc tcaagaagct gtccaaggac ggctccacag aggcagggtg gagcagtcac      900
gaggaggaca cggatggcca cgtggctgcg gggctgactt tagccaggcg gaaaaggagc      960
gccggggctg gcagccactg tcaaaagacc tccctgcggg taaacttcga ggacatcggc      1020
tgggacagct ggatcattgc acecaaggag tatgaagcct acgagtgtaa gggcggctgc      1080
ttcttccctt tggctgacga tgtgacgccg acgaaacacg ctatcgtgca gaccctggtg      1140
catctcaagt tccccacaaa ggtgggcaag gcctgctgtg tgcccaccaa actgagcccc      1200
atctccgtcc tctacaagga tgacatgggg gtgcccaccc tcaagtacca ttacgagggc      1260
atgagcgtgg cagagtgtgg gtgcaggtag

<210> 170
<211> 495
<212> DNA
<213> Homo sapiens

<400> 170
tgtgatctgc ctcaaaccce cagcctgggt tctagaagga ccttgatgct cctggcacag      60
atgaggagaa tctctctttt ctctgcttg aaggacagac atgacttttg atttccccag      120
gaggagtgtt gcaaccagtt ccaaaaggct gaaaccatcc ctgtcctcca tgagatgatc      180
cagcagatct tcaatctctt cagcacaaag gactcatctg ctgcttgga tgagacctc      240
ctagacaaat tctacactga actctaccag cagctgaatg acctggaagc ctgtgtgata      300
caggggggtg ggggtgacaga gactcccctg atgaaggagg actccattct ggctgtgagg      360
aaatacttcc aaagaatcac tctctatctg aaagagaaga aatacagccc ttgtgcctgg      420
gaggttgtca gagcagaaat catgagatct ttttcttgt caacaaactt gcaagaaagt      480
ttaagaagta agga

<210> 171
<211> 576
<212> DNA
<213> Homo sapiens

<400> 171
atgggcgtgc atgagtgtcc cgcttggtgc tggctgctgc tcagcctgct gagcctgtcc      60
ctgggactgc ccgtgctggg tgcaccccc aggctgatct gcgattccag ggtgctggag      120

```

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| cggtatttgc | tggaagcaaa | agaagctgag | aacatcacca | ctggctgcmc | cgagcattgt | 180 |
| tccctgaacg | agaacatcac | cgtgcccgat | accaaggtga | acttttacgc | ttggaaacgg | 240 |
| atggaagtgg | gccagcaagc | tgtggaggtg | tggcaaggtc | tcgctctcct | gagcgaggcc | 300 |
| gtgctgaggg | gacaggctct | gctggtgaac | agcagccagc | catgggaacc | tctccaactg | 360 |
| cacgtggaca | aggccgtgag | cggactgcgg | agcctgacca | ccctgctgag | ggcactgggc | 420 |
| gctcaaaaag | aggccattag | cccacctgac | gccgccagcg | ccgcacccct | gaggaccatc | 480 |
| accgccgata | ccttccggaa | gctgtttcgg | gtgtacagca | acttcctgag | gggcaagctc | 540 |
| aaactgtata | ccggcgaggc | ttgtcggacc | ggcgac | | | 576 |

<210> 172
 <211> 291
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 172 | | | | | | |
| atgtgctgta | ccaagagttt | gctcctggct | gctttgatgt | cagtgtctgt | actccacctc | 60 |
| tggcggcaat | cagaagcagc | aagcaacttt | gactgtctgt | ttggatacac | agaccgtatt | 120 |
| cttcaccta | aatttattgt | gggcttgaca | cggcagctgg | ccaatgaagg | ctgtgacatc | 180 |
| aatgctatca | tctttcacac | aaagaaaaag | ttgtctgtgt | gcgcaaatcc | aaaacagact | 240 |
| tgggtgaaat | atattgtgcg | tctcctcagt | aaaaaagtca | agaacatgta | a | 291 |

<210> 173
 <211> 1290
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|-------------|------------|-------------|-------------|------|
| <400> 173 | | | | | | |
| atgtgtcctg | gggcactgtg | ggtggccctg | cccctgctgt | ccctgctggc | tggctcccta | 60 |
| caggggaagc | cactgcagag | ctggggacga | gggtctgtct | ggggaaacgc | ccacagccca | 120 |
| ctgggggtgc | ctggaggtgg | gctgcctgag | cacaccttca | acctgaagat | gtttctggag | 180 |
| aacgtgaagg | tggatttcct | gcgcagcctt | aacctgagtg | gggtcccttc | gcaggacaaa | 240 |
| accagggtgg | agccgccgca | gtacatgatt | gacctgtaca | acaggtacac | gtccgataag | 300 |
| tcgactacgc | cagcgtccaa | cattgtgcgg | agcttcagca | tgggaagatgc | catctccata | 360 |
| actgccacag | aggacttccc | cttcacagaag | cacatcttgc | tcttcaacat | ctccattcct | 420 |
| aggcatgagc | agatcaccag | agctgagctc | cgactctatg | tctcctgtca | aaatcacgtg | 480 |
| gacccctctc | atgacctgaa | aggaagcgtg | gtcatttatg | atgttctgga | tggaaacagat | 540 |
| gcctgggata | gtgctacaga | gaccaagacc | ttcctggtgt | cccaggacat | tcaggatgag | 600 |
| ggctgggaga | ccttggaagt | gtccagcgc | gtgaagcgt | gggtccggtc | cgactccacc | 660 |
| aagagcaaaa | ataagctgga | agtgaactgt | gagagccaca | ggaagggctg | cgacacgctg | 720 |
| gacatcagtg | ttccccccag | ttccagaaac | ctgcccttct | ttgttgtctt | ctccaatgac | 780 |
| cacagcagtg | ggaccaagga | gaccaggctg | gagctgaggg | agatgatcag | ccatgaacaa | 840 |
| gagagcgtgc | tcaagaagct | gtccaaggac | ggctccacag | aggcagggtga | gagcagtcac | 900 |
| gaggaggaca | cggatggcca | cgtggctgcg | gggtcgactt | tagccaggcg | gaaaaggagc | 960 |
| gccggggctg | gcagccactg | tcaaaaagacc | tccctgcggg | taaacttcga | ggacatcggc | 1020 |
| tgggacagct | ggatcattgc | acccaaggag | tatgaagcct | acgagtgtaa | gggcggctgc | 1080 |
| ttcttcccct | tggctgacga | tgtgacgccc | acgaaacacg | ctatcgtgca | gacctgtgtg | 1140 |
| catctcaagt | ttcccacaaa | ggtgggcaag | gcctgctgtg | tgcccaccaa | actgagcccc | 1200 |
| atctccgtcc | tctacaagga | tgacatgggg | gtgccacccc | tcaagtacca | ttacgagggc | 1260 |
| atgagcgtgg | cagagtgtgg | gtgcaggtag | | | | 1290 |

<210> 174
 <211> 1290
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| <400> 174 | | | | | | |
| atgtgtcctg | gggcactgtg | ggtggccctg | cccctgctgt | ccctgctggc | tggctcccta | 60 |
| caggggaagc | cactgcagag | ctggggacga | gggtctgtct | ggggaaacgc | ccacagccca | 120 |
| ctgggggtgc | ctggaggtgg | gctgcctgag | cacaccttca | acctgaagat | gtttctggag | 180 |
| aacgtgaagg | tggatttcct | gcgcagcctt | aacctgagtg | gggtcccttc | gcaggacaaa | 240 |
| accagggtgg | agccgccgca | gtacatgatt | gacctgtaca | acaggtacac | gtccgataag | 300 |
| tcgactacgc | cagcgtccaa | cattgtgcgg | agcttcagca | tgggaagatgc | catctccata | 360 |

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|------|
| actgccacag | aggacttccc | cttcacagaag | cacatcttgc | tcttcaacat | ctccatttct | 420 |
| aggcatgagc | agatcaccag | agctgagctc | cgactctatg | tctcctgtca | aaatcacgtg | 480 |
| gacccctctc | atgacctgaa | aggaagcgtg | gtcattttatg | atgttctgga | tggaacagat | 540 |
| gcctgggata | gtgctacaga | gaccaagacc | ttcctggtgt | cccaggacat | tcaggatgag | 600 |
| ggctgggaga | ccttggaagt | gtccagcgcc | gtgaagcgct | gggtccggtc | cgactccacc | 660 |
| aagagcaaaa | ataagctgga | agtgactgtg | gagagccaca | ggaagggtcg | cgacacgtg | 720 |
| gacatcagtg | tccccccagg | ttccagaaac | ctgcccttct | ttgttgtctt | ctccaatgac | 780 |
| cacagcagtg | ggaccaagga | gaccaggctg | gagctgaggg | agatgatcag | ccatgaacaa | 840 |
| gagagcgtgc | tcaagaagct | gtccaaggac | ggctccacag | aggcaggtga | gagcagtcac | 900 |
| gaggaggaca | cggatggcca | cgtggctgcg | gggtcgactt | tagccaggcg | gaaaaggagc | 960 |
| gccggggctg | gcagccactg | tcaaaagacc | tccctgcggg | taaacttcga | ggacatcggc | 1020 |
| tgggacagct | ggatcattgc | acccaaggag | tatgaagcct | acgagtgtaa | gggaggctgc | 1080 |
| ttcttcccc | tggtgacga | tgtgacgccg | acgaaacacg | ctatcgtgca | gacctgggtg | 1140 |
| catctcaagt | tccccacaaa | ggtgggcaag | gcctgctgtg | tgcccaccaa | actgagcccc | 1200 |
| atctccgtcc | tctacaagga | tgacatgggg | gtgcccaccc | tcaagtacca | ttacgagggc | 1260 |
| atgagcgtgg | cagagtgtgg | gtgcaggtag | | | | 1290 |

<210> 175

<211> 282

<212> DNA

<213> Homo sapiens

<400> 175

| | | | | | | |
|------------|------------|------------|------------|-------------|------------|-----|
| atgaagatct | ccgtggctgc | aattcccttc | ttcctcctca | tcaccatcgc | cctagggacc | 60 |
| aagactgaat | cctcctcacg | gggaccttac | cacccctcag | agtgtgtgctt | cacctacact | 120 |
| acctacaaga | tcccgctgca | gcggattatg | gattactatg | agaccaacag | ccagtgtctc | 180 |
| aagccccgaa | ttgtcttcat | cacccaaaag | ggccattccg | tctgtaccaa | ccccagtgac | 240 |
| aagtgggtcc | aggactatat | caaggacatg | aaggagaact | ga | | 282 |

<210> 176

<211> 1290

<212> DNA

<213> Homo sapiens

<400> 176

| | | | | | | |
|------------|------------|-------------|-------------|------------|------------|------|
| atgtgtcctg | gggcactgtg | ggtggccctg | cccctgctgt | ccctgctggc | tggtcccta | 60 |
| caggggaagc | cactgcagag | ctggggacga | gggtctgctg | ggggaaacgc | ccacagccca | 120 |
| ctgggggtgc | ctggagggtg | gtgcctgag | cacaccttca | acctgaagat | gtttctggag | 180 |
| aacgtgaagg | tggatttctc | gcgcagcctt | aacctgagtg | gggtcccttc | gcaggacaaa | 240 |
| accagggtg | agccgcccga | gtacatgatt | gacctgtaca | acaggtacac | gtccgataag | 300 |
| tcgactacgc | cagcgtccaa | cattgtgcgg | agcttcagca | tggaagatgc | catctccata | 360 |
| actgccacag | aggacttccc | cttcacagaag | cacatcttgc | tcttcaacat | ctccatttct | 420 |
| aggcatgagc | agatcaccag | agctgagctc | cgactctatg | tctcctgtca | aaatcacgtg | 480 |
| gacccctctc | atgacctgaa | aggaagcgtg | gtcattttatg | atgttctgga | tggaacagat | 540 |
| gcctgggata | gtgctacaga | gaccaagacc | ttcctggtgt | cccaggacat | tcaggatgag | 600 |
| ggctgggaga | ccttggaagt | gtccagcgcc | gtgaagcgct | gggtccggtc | cgactccacc | 660 |
| aagagcaaaa | ataagctgga | agtgactgtg | gagagccaca | ggaagggtcg | cgacacgtg | 720 |
| gacatcagtg | tccccccagg | ttccagaaac | ctgcccttct | ttgttgtctt | ctccaatgac | 780 |
| cacagcagtg | ggaccaagga | gaccaggctg | gagctgaggg | agatgatcag | ccatgaacaa | 840 |
| gagagcgtgc | tcaagaagct | gtccaaggac | ggctccacag | aggcaggtga | gagcagtcac | 900 |
| gaggaggaca | cggatggcca | cgtggctgcg | gggtcgactt | tagccaggcg | gaaaaggagc | 960 |
| gccggggctg | gcagccactg | tcaaaagacc | tccctgcggg | taaacttcga | ggacatcggc | 1020 |
| tgggacagct | ggatcattgc | acccaaggag | tatgaagcct | acgagtgtaa | gggaggctgc | 1080 |
| ttcttcccc | tggtgacga | tgtgacgccg | acgaaacacg | ctatcgtgca | gacctgggtg | 1140 |
| catctcaagt | tccccacaaa | ggtgggcaag | gcctgctgtg | tgcccaccaa | actgagcccc | 1200 |
| atctccgtcc | tctacaagga | tgacatgggg | gtgcccaccc | tcaagtacca | ttacgagggc | 1260 |
| atgagcgtgg | cagagtgtgg | gtgcaggtag | | | | 1290 |

<210> 177

<211> 249

<212> DNA

<213> Homo sapiens

<400> 177
atgaagaagg tgtgctgggt gggggctcta gcccacttgg ttttgtgtga gaggtggctg 60
acagcagggt gtttgctgta tgtaggagtt atccagccct gcaagggcag tccctccagt 120
gtctgcaaag cccgaagatg tctgcatcca aaatacagaa taaaaagata tggttactac 180
aagtactcag taagactgat aatctgtcat catcatcctc atgcccttaa agcagagcta 240
actgatgat 249

<210> 178

<211> 1290

<212> DNA

<213> Homo sapiens

<400> 178
atgtgtcctg gggcactgtg ggtggccctg cccctgctgt ccctgctggc tggctcccta 60
caggggaagc cactgcagag ctggggacga gggctctgctg ggggaaacgc ccacagccca 120
ctgggggtgc ctggagggtg gctgcctgag cacaccttca acctgaagat gtttctggag 180
aacgtgaagg tggatttcct gcgcagcctt aacctgagtg gggcccttc gcaggacaaa 240
accaggggtg agccgccgca gtacatgatt gacctgtaca acagggtacac gtccgataag 300
tcgactacgc cagcgtccaa cattgtgcgg agcttcagca tggaaagatgc catctccata 360
actgccacag aggacttccc ctccagaag cacatcttgc tcttcaacat ctccattcct 420
aggcatgagc agatcaccag agctgagctc cgactctatg tctcctgtca aaatcacgtg 480
gacccctctc atgacctgaa aggaagcgtg gtcatttatg atgttctgga tggaaacagat 540
gcctgggata gtgctacaga gaccaagacc ttctgggtgt cccaggacat tcaggatgag 600
ggctggggaga ccttggaagt gtccagcgcg gtgaagcgtc gggctcggtc cgactccacc 660
aagagcaaaa ataagctgga agtgactgtg gagagccaca ggaagggtg cgacacgtg 720
gacatcagtg tccccccagg ttccagaaac ctgcccttct ttgttgtctt ctccaatgac 780
cacagcagtg ggaccaagga gaccaggctg gagctgaggg agatgatcag ccatgaacaa 840
gagagcgtgc tcaagaagct gtccaaggac ggctccacag aggcagggtga gagcagtcac 900
gaggaggaca cggatggcca cgtggctgcg gggctgactt tagccaggcg gaaaaggagc 960
gccggggctg gcagccactg tcaaaagacc tccctgcggg taaacttcga ggacatcggc 1020
tgggacagct ggatcattgc acccaaggag tatgaagcct acgagtgtaa gggcggctgc 1080
ttcttccctt tggctgacga tgtgacgccg acgaaacacg ctatcgtgca gaccctgggtg 1140
catctcaagt tccccacaaa ggtgggcaag gcctgctgtg tgcccaccaa actgagcccc 1200
atctccgtcc tctacaagga tgacatgggg gtgcccaccc tcaagtacca ttacgagggc 1260
atgagcgtgg cagagtgtgg gtgcaggtag 1290

<210> 179

<211> 599

<212> DNA

<213> Homo sapiens

<400> 179
atgggggtgc acgaatgtcc tgccctggctg tggcttctcc tgtccctgct gtcgctccct 60
ctgggcctcc cagtcctggg cgccccacca cgcctcatct gtgacagccg agtcctggag 120
aggtagctct tggaggccaa ggaggccgag aatatcacga cgggctgtgc tgaacactgc 180
agcttgaatg agaatatcac tgtcccagac accaaagtta atttctatgc ctggaagagg 240
atggaggctc ggcagcaggc cgtagaagtc tggcagggcc tggccctgct gtcggaagct 300
gtcctgcggg gccaggccct gttggtcaac tcttcccagc cgtgggagcc cctgcagctg 360
catgtggata aagccgtcag tggccttcgc agcctcacca ctctgcttcg ggctctgcga 420
gcccagaagg aagccatctc cctccagat gcggcctcag ctgctccact ccgaacaatc 480
actgctgaca ctttccgcaa actcttccga gtctactcca atttctcgcg gggaaagctg 540
aagctgtaca caggggaggc ctgcaggaca ggggacagat gaccagggtg gtccacctg 599

<210> 180

<211> 504

<212> DNA

<213> Homo sapiens

<400> 180
atgttgacag tcgctctcct agcccttctc tgtgcctcag cctctggcaa tgccattcag 60
gccaggctct cctcctatag tggagagtat ggagggtgtg gtggaaagcg attctctcat 120
tctggcaacc agttggacgg ccccatcacc gccctccggg tccgagtcaa cacatactac 180
atcgtaggtc ttcagggtcg ctatggcaag gtgtggagcg actatgtggg tggctcgcaac 240

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| ggagacctgg | aggagatctt | tctgcaccct | ggggaatcag | tgatccaggt | ttctgggaag | 300 |
| tacaagtgg | acctgaagaa | gctgggtatt | gtgacagaca | agggccgcta | tctgtctttt | 360 |
| gggaaagaca | gtggcacaag | tttcaatgcc | gtccccttgc | acccaacac | cgtgctccgc | 420 |
| ttcatcagtg | gccggtctgg | ttctctcatc | gatgccattg | gcctgcactg | ggatgtttac | 480 |
| cccactagct | gcagcagatg | ctga | | | | 504 |

<210> 181
 <211> 495
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|-----------|-----------|-----------|-----------|------------|-----|
| <400> 181 | | | | | | |
| tgtgatctgc | ctcaaacc | cagcctgg | tctagaag | ccttgatg | cctggcac | 60 |
| atgaggagaa | tctctctt | ctcctgct | aaggacag | atgacttt | atttcccc | 120 |
| gaggagtttg | gcaaccagt | ccaaaagg | gaaaccat | ctgtcctc | tgagatgat | 180 |
| cagcagatct | tcaatctct | cagcacaa | gactcatct | ctgcttgg | tgagaccct | 240 |
| ctagacaaat | tctacact | actctacc | cagctgaat | acctggaag | ctgtgtgata | 300 |
| caggggggtg | gggtgacag | gactcccc | atgaaggag | actccatt | ggctgtgag | 360 |
| aaatacttcc | aaagaatca | tctctatct | aaagagaag | aatacagcc | ttgtgcctg | 420 |
| gaggttgtca | gagcagaa | catgagat | ttttcttgt | caacaaact | gcaagaaag | 480 |
| ttaagaagta | aggaa | | | | | 495 |

<210> 182
 <211> 1290
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|------|
| <400> 182 | | | | | | |
| atgtgtcctg | gggcactgtg | ggtggccctg | cccctgctgt | ccctgctggc | tggtcccta | 60 |
| caggggaagc | cactgcagag | ctggggacga | gggtctgctg | ggggaacgc | ccacagcca | 120 |
| ctgggggtgc | ctggaggtgg | gctgcctgag | cacaccttca | acctgaagat | gtttctggag | 180 |
| aacgtgaagg | tggatttcct | gcgcagcctt | aacctgagtg | gggtcccttc | gcaggacaaa | 240 |
| accagggtgg | agccgcccga | gtacatgatt | gacctgtaca | acaggtacac | gtccgataag | 300 |
| tcgactacgc | cagcgtccaa | cattgtgcgg | agcttcagca | tggaagatgc | catctccata | 360 |
| actgccacag | aggacttccc | cttccagaag | cacatcttgc | tcttcaacat | ctccattcct | 420 |
| aggcatgagc | agatcaccag | agctgagctc | cgactctatg | tctcctgtca | aaatcacgtg | 480 |
| gacccctctc | atgacctgaa | aggaagcgtg | gtcatttatg | atgttctgga | tggaacagat | 540 |
| gcctgggata | gtgctacaga | gaccaagacc | ttcctggtgt | cccaggacat | tcaggatgag | 600 |
| ggctgggaga | ccttggaagt | gtccagcgcc | gtgaagcgct | gggtccggtc | cgactccacc | 660 |
| aagagcaaaa | ataagctgga | agtgactgtg | gagagccaca | ggaagggtg | cgacacgctg | 720 |
| gacatcagtg | ttcccccagg | ttccagaaac | ctgccttctt | ttgttgtctt | ctccaatgac | 780 |
| cacagcagtg | ggaccaagga | gaccaggctg | gagctgaggg | agatgatcag | ccatgaacaa | 840 |
| gagagcgtgc | tcaagaagct | gtccaaggac | ggctccacag | aggcaggtga | gagcagtcac | 900 |
| gaggaggaca | cggatggcca | cgtggctgcg | gggtcgactt | tagccaggcg | gaaaaggagc | 960 |
| gccggggctg | gcagccactg | tcaaaagacc | tccctgcggg | taaaacttca | ggacatcggc | 1020 |
| tgggacagct | ggatcattgc | acccaaggag | atgaagcct | acgagtgtaa | ggcggtctgc | 1080 |
| ttcttccctt | tggctgacga | tgtgacgcg | acgaaacacg | ctatcgtgca | gacctgggtg | 1140 |
| catctcaagt | ttcccacaaa | ggtgggcaag | gcctgctgtg | tgcccaccaa | actgagcccc | 1200 |
| atctccgtcc | tctacaagga | tgacatgggg | gtgcccaccc | tcaagtacca | ttacgagggc | 1260 |
| atgagcgtgg | cagagtgtgg | gtgcaggtag | | | | 1290 |

<210> 183
 <211> 1290
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 183 | | | | | | |
| atgtgtcctg | gggcactgtg | ggtggccctg | cccctgctgt | ccctgctggc | tggtcccta | 60 |
| caggggaagc | cactgcagag | ctggggacga | gggtctgctg | ggggaacgc | ccacagcca | 120 |
| ctgggggtgc | ctggaggtgg | gctgcctgag | cacaccttca | acctgaagat | gtttctggag | 180 |
| aacgtgaagg | tggatttcct | gcgcagcctt | aacctgagtg | gggtcccttc | gcaggacaaa | 240 |
| accagggtgg | agccgcccga | gtacatgatt | gacctgtaca | acaggtacac | gtccgataag | 300 |
| tcgactacgc | cagcgtccaa | cattgtgcgg | agcttcagca | tggaagatgc | catctccata | 360 |

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|------|
| actgccacag | aggacttccc | cttccagaag | cacatcttgc | tcttcaacat | ctccattcct | 420 |
| aggcatgagc | agatcaccag | agctgagctc | cgactctatg | tctcctgtca | aaatcacgtg | 480 |
| gacccctctc | atgacctgaa | aggaagcgtg | gtcatttatg | atgttctgga | tggaacagat | 540 |
| gcctgggata | gtgctacaga | gaccaagacc | ttcctgggtg | cccaggacat | tcaggatgag | 600 |
| ggctgggaga | ccttggaagt | gtccagcgcc | gtgaagcgct | gggtccggtc | cgactccacc | 660 |
| aagagcaaaa | ataagctgga | agtgactgtg | gagagccaca | ggaagggtcg | cgacacgctg | 720 |
| gacatcagtg | ttccccccagg | ttccagaaac | ctgcccttct | ttgttgtctt | ctccaatgac | 780 |
| cacagcagtg | ggaccaagga | gaccaggctg | gagctgaggg | agatgatcag | ccatgaacaa | 840 |
| gagagcgtgc | tcaagaagct | gtccaaggac | ggctccacag | aggcagggtga | gagcagtcac | 900 |
| gaggaggaca | cggatggcca | cgtggctgcg | gggtcgactt | tagccaggcg | gaaaaggagc | 960 |
| gccggggctg | gcagccactg | tcaaaagacc | tccctgcggg | taaacttcga | ggacatcggc | 1020 |
| tgggacagct | ggatcattgc | acccaaggag | tatgaagcct | acgagtgtaa | gggagggtgc | 1080 |
| ttcttcccct | tggtgacga | tgtagcgccg | acgaaacacg | ctatcgtgca | gacctgggtg | 1140 |
| catctcaagt | ttcccacaaa | gggtgggcaag | gcctgctgtg | tgcccaccaa | actgagcccc | 1200 |
| atctccgtcc | tctacaagga | tgacatgggg | gtgcccaccc | tcaagtacca | ttacgagggc | 1260 |
| atgagcgtgg | cagagtgtgg | gtgcaggtag | | | | 1290 |

<210> 184

<211> 1290

<212> DNA

<213> Homo sapiens

<400> 184

| | | | | | | |
|------------|-------------|-------------|------------|-------------|------------|------|
| atgtgtcctg | gggcactgtg | gggtggccctg | cccctgctgt | ccctgtgggc | tggtccccta | 60 |
| caggggaagc | cactgcagag | ctggggacga | gggtctgctg | ggggaaacgc | ccacagccca | 120 |
| ctgggggtgc | ctggaggtgg | gctgcctgag | cacaccttca | acctgaagat | gtttctggag | 180 |
| aacgtgaagg | tggatttcct | gcgcagcctt | aacctgagtg | gggtcccttc | gcaggacaaa | 240 |
| accagggtgg | agccgcgcga | gtacatgatt | gacctgtaca | acaggtacac | gtccgataag | 300 |
| tcgactacgc | cagcgtccaa | cattgtgcgg | agcttcagca | tggaagatgc | catctccata | 360 |
| actgccacag | aggacttccc | cttccagaag | cacatcttgc | tcttcaacat | ctccattcct | 420 |
| aggcatgagc | agatcaccag | agctgagctc | cgactctatg | tctcctgtca | aaatcacgtg | 480 |
| gacccctctc | atgacctgaa | aggaagcgtg | gtcatttatg | atgttctgga | tggaacagat | 540 |
| gcctgggata | gtgctacaga | gaccaagacc | ttcctgggtg | cccaggacat | tcaggatgag | 600 |
| ggctgggaga | ccttggaagt | gtccagcgcc | gtgaagcgct | gggtccggtc | cgactccacc | 660 |
| aagagcaaaa | ataagctgga | agtgactgtg | gagagccaca | ggaagggtcg | cgacacgctg | 720 |
| gacatcagtg | ttccccccagg | ttccagaaac | ctgcccttct | ttgttgtctt | ctccaatgac | 780 |
| cacagcagtg | ggaccaagga | gaccaggctg | gagctgaggg | agatgatcag | ccatgaacaa | 840 |
| gagagcgtgc | tcaagaagct | gtccaaggac | ggctccacag | aggcagggtga | gagcagtcac | 900 |
| gaggaggaca | cggatggcca | cgtggctgcg | gggtcgactt | tagccaggcg | gaaaaggagc | 960 |
| gccggggctg | gcagccactg | tcaaaagacc | tccctgcggg | taaacttcga | ggacatcggc | 1020 |
| tgggacagct | ggatcattgc | acccaaggag | tatgaagcct | acgagtgtaa | gggagggtgc | 1080 |
| ttcttcccct | tggtgacga | tgtagcgccg | acgaaacacg | ctatcgtgca | gacctgggtg | 1140 |
| catctcaagt | ttcccacaaa | gggtgggcaag | gcctgctgtg | tgcccaccaa | actgagcccc | 1200 |
| atctccgtcc | tctacaagga | tgacatgggg | gtgcccaccc | tcaagtacca | ttacgagggc | 1260 |
| atgagcgtgg | cagagtgtgg | gtgcaggtag | | | | 1290 |

<210> 185

<211> 599

<212> DNA

<213> Homo sapiens

<400> 185

| | | | | | | |
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| atgggggtgc | acgaatgtcc | tgcttggtcg | tggtttctcc | tgtccctgct | gtcgctccct | 60 |
| ctgggcctcc | cagtcctggg | cgccccacca | cgcctcatct | gtgacagccg | agtcctggag | 120 |
| aggtagctct | tggaggccaa | ggaggccgag | aatatcacga | cgggctgtgc | tgaacactgc | 180 |
| agcttgaatg | agaatatcac | tggtccagac | accaaagtta | atttctatgc | ctggaagagg | 240 |
| atggaggtcg | ggcagcaggc | cgtagaagtc | tggcagggcc | tggtccctgct | gtcggaagct | 300 |
| gtcctgcggg | gccaggccct | gttggtcaac | tcttcccagc | cgtgggagcc | cctgcagctg | 360 |
| catgtggata | aagccgtcag | tggtccttcg | agcctcacca | ctctgcttcg | ggctctgcga | 420 |
| gcccagaagg | aagccatctc | ccctccagat | gcggcctcag | ctgctccact | ccgaacaatc | 480 |
| actgctgaca | ctttccgcaa | actcttccga | gtctactcca | atttctcccg | gggaaagctg | 540 |
| aagctgtaca | caggggaggc | ctgcaggaca | ggggacagat | gaccagggtg | gtccacctg | 599 |

<210> 186
 <211> 495
 <212> DNA
 <213> Homo sapiens

<400> 186
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 gaggagtttg gcaaccagtt ccaaaaggct gaaaccatcc ctgtcctcca tgagatgac 180
 cagcagatct tcaatctctt cagcacaag gactcatctg ctgcttgga tgagaccctc 240
 ctagacaaat tctacactga actctaccag cagctgaatg acctggaagc ctgtgtgata 300
 cagggggttg ggggtgacaga gactcccctg atgaaggagg actccattct ggctgtgagg 360
 aaatacttcc aaagaatcac tctctatctg aaagagaaga aatacagccc ttgtgcctgg 420
 gaggttgtca gaggagaaat catgagatct ttttctttgt caacaaactt gcaagaaagt 480
 ttaagaagta aggaa 495

<210> 187
 <211> 495
 <212> DNA
 <213> Homo sapiens

<400> 187
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 atgaggagaa tctctctttt ctctctgctg aaggacagac atgactttgg atttccccag 120
 gaggagtttg gcaaccagtt ccaaaaggct gaaaccatcc ctgtcctcca tgagatgac 180
 cagcagatct tcaatctctt cagcacaag gactcatctg ctgcttgga tgagaccctc 240
 ctagacaaat tctacactga actctaccag cagctgaatg acctggaagc ctgtgtgata 300
 cagggggttg ggggtgacaga gactcccctg atgaaggagg actccattct ggctgtgagg 360
 aaatacttcc aaagaatcac tctctatctg aaagagaaga aatacagccc ttgtgcctgg 420
 gaggttgtca gaggagaaat catgagatct ttttctttgt caacaaactt gcaagaaagt 480
 ttaagaagta aggaa 495

<210> 188
 <211> 615
 <212> DNA
 <213> Homo sapiens

<400> 188
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 cacagtgcac tctggacagt gcaggaagcc acccccctgg gccctgccag ctcccctgcc 120
 cagagcttcc tgctcaagtg cttagagcaa gtgaggaaga tccagggcga tggcgacagc 180
 ctccaggaga agctgtgtgc cacctacaag ctgtgccacc ccgaggagct ggtgtgtctc 240
 ggacactctc tgggcatccc ctgggctccc ctgagcagct gccccagcca ggccctgcag 300
 ctggcaggct gcttgagcca actccatagc ggccttttcc tctaccaggg gctcctgcag 360
 gccctggaag ggatctcccc cgagtgggt cccaccttgg acacactgca gctggacgtc 420
 gccgactttg ccaccacccat ctggcagcag atggaagaac tgggaatggc ccctgccctg 480
 cagccccacc aggggtgccat gccggccttc gcctctgctt tccagcgccg ggcaggaggg 540
 gtcctggttg cctcccatct gcagagcttc ctggaggtgt cgtaccgcgt tctacgccac 600
 cttgccacgc cctga 615

<210> 189
 <211> 1041
 <212> DNA
 <213> Homo sapiens

<400> 189
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 ctgctgctgc ttcgcggagg agcgcaggcc ctggagtgtc acagctgctg gcagaaagca 120
 gatgacggat gctccccgaa caagatgaag acagtgaagt gcgcgccggg cgtggacgtc 180
 tgcaccgagg ccgtgggggc ggtggagacc atccacggac aattctcgtc ggcagtgcgg 240
 ggttgcggtt cgggactccc cggcaagaat gaccgcggcc tggatcttca cgggcttctg 300
 gcgttcatcc agctgcagca atgcgctcag gatcgctgca acgccaagct caacctcacc 360
 tcgcggggcg tcgacccggc aggtaatgag agtgcatacc cgcccaacgg cgtggagtgc 420

| | | | | | | |
|-------------|------------|-------------|-------------|------------|-------------|------|
| tacagctgtg | tgggcctgag | ccgggaggcg | tgccagggta | catcgccgcc | ggtcgtgagc | 480 |
| tgctacaacg | ccagcgatca | tgtctacaag | ggctgcttcg | acggcaacgt | caccttgacg | 540 |
| gcagctaata | tgactgtgtc | cttgccctgtc | cggggctgtg | tccaggatga | attctgcaact | 600 |
| cgggatggag | taacaggccc | agggttcacg | ctcagtggtt | cctgttgcca | gggggtcccg | 660 |
| tgtaactctg | acctccgcaa | caagacctac | ttctccccctc | gaatcccacc | ccttgtcccg | 720 |
| ctgccccctc | cagagcccac | gactgtggcc | tcaaccacat | ctgtcaccac | ttctacctcg | 780 |
| gccccagtga | gaccacatc | caccaccaa | ccatgccag | cgccaaccag | tcagactccg | 840 |
| agacaggag | tagaacacga | ggcctcccgg | gatgaggagc | ccaggttgac | tggaggcgcc | 900 |
| gctggccacc | aggaccgcag | caattcaggg | cagtatcctg | caaaaggggg | gccccagcag | 960 |
| ccccataata | aaggctgtgt | ggctcccaca | gctggatttg | cagcccttct | gttggccgtg | 1020 |
| gctgctgggtg | tcctactgtg | a | | | | 1041 |

<210> 190
 <211> 1041
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|-------------|-------------|-------------|-------------|------|
| <400> 190 | | | | | | |
| atggaccccg | ccaggaaagc | aggtgcccag | gccatgatct | ggactgcagg | ctggctgctg | 60 |
| ctgctgctgc | ttcgcgagg | agcgccagcc | ctggagtgtt | acagctgcgt | gcagaaagca | 120 |
| gatgacggat | gctccccgaa | caagatgaag | acagtgaagt | gcgcgcgggg | cgtggacgtc | 180 |
| tgccaccgag | ccgtgggggc | gggtggagacc | atccacggac | aattctcgct | ggcagtgcgg | 240 |
| gggtgcggtt | cgggactccc | cggcaagaat | gaccgcggcc | tggtatcttca | cgggcttctg | 300 |
| gcgttcatcc | agctgcagca | atgcgctcag | gatcgctgca | acgccaagct | caacctcacc | 360 |
| tcgcgggcgc | tcgaccggc | aggtaatgag | agtgcatacc | cgcccaacgg | cgtggagtgc | 420 |
| tacagctgtg | tgggcctgag | ccgggaggcg | tgccagggta | catcgccgcc | ggtcgtgagc | 480 |
| tgctacaacg | ccagcgatca | tgtctacaag | ggctgcttcg | acggcaacgt | caccttgacg | 540 |
| gcagctaata | tgactgtgtc | cttgccctgtc | cggggctgtg | tccaggatga | attctgcaact | 600 |
| cgggatggag | taacaggccc | agggttcacg | ctcagtggtt | cctgttgcca | gggggtcccg | 660 |
| tgtaactctg | acctccgcaa | caagacctac | ttctccccctc | gaatcccacc | ccttgtcccg | 720 |
| ctgccccctc | cagagcccac | gactgtggcc | tcaaccacat | ctgtcaccac | ttctacctcg | 780 |
| gccccagtga | gaccacatc | caccaccaa | ccatgccag | cgccaaccag | tcagactccg | 840 |
| agacaggag | tagaacacga | ggcctcccgg | gatgaggagc | ccaggttgac | tggaggcgcc | 900 |
| gctggccacc | aggaccgcag | caattcaggg | cagtatcctg | caaaaggggg | gccccagcag | 960 |
| ccccataata | aaggctgtgt | ggctcccaca | gctggatttg | cagcccttct | gttggccgtg | 1020 |
| gctgctgggtg | tcctactgtg | a | | | | 1041 |

<210> 191
 <211> 495
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| <400> 191 | | | | | | |
| tgtgatctgc | ctcaaaccga | cagcctgggt | tctagaagga | ccttgatgct | cctggcacag | 60 |
| atgaggagaa | tctctctttt | ctcctgcttg | aaggacagac | atgacttttg | atttccccag | 120 |
| gaggagtgtg | gcaaccagtt | ccaaaaggct | gaaaccatcc | ctgtcctcca | tgagatgac | 180 |
| cagcagatct | tcaatctctt | cagcacaaag | gactcatctg | ctgcttggga | tgagaccctc | 240 |
| ctagacaaat | tctactactga | actctaccag | cagctgaatg | acctggaagc | ctgtgtgata | 300 |
| caggggggtg | gggtgacaga | gactccccctg | atgaaggagg | actccattct | ggctgtgagg | 360 |
| aaatacttcc | aaagaatcac | tctctatctg | aaagagaaga | aatacagccc | ttgtgcctgg | 420 |
| gaggttgtca | gagcagaaat | catgagatct | ttttctttgt | caacaaactt | gcaagaaagt | 480 |
| ttaagaagta | aggaa | | | | | 495 |

<210> 192
 <211> 282
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 192 | | | | | | |
| atgaagatct | ccgtggctgc | cattcccttc | ttctctctca | tcaccatcgc | cctagggacc | 60 |
| aagactgaat | cctcctcagc | gggaccttac | caccctcag | agtgtgtgtt | cacctacact | 120 |
| acctacaaga | tcccgctca | gcggattatg | gattactatg | agaccaacag | ccagtgtctc | 180 |
| aagcccgga | ttgtcttcat | cacaaaaagg | ggccattccg | tctgtaccaa | ccccagtga | 240 |

aagtgggtcc aggactatat caaggacatg aaggagaact ga 282

<210> 193
<211> 615
<212> DNA
<213> Homo sapiens

<400> 193
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cacagtgcac tctggacagt gcaggaagcc acccccctgg gccctgccag ctccctgccc 120
cagagcttcc tgetcaagtg cttagagcaa gtgaggaaga tccagggcga tggcgacgcg 180
ctccaggaga agctgtgtgc cacctacaag ctgtgccacc ccgaggagct ggtgctgctc 240
ggacactctc tgggcatccc ctgggctccc ctgagcagct gccccagcca ggccctgcag 300
ctggcaggct gcttgagcca actccatagc ggcttttcc tctaccaggg gctcctgcag 360
gccctggaag ggatctcccc cgagttgggt cccaccttgg acacactgca gctggacgtc 420
gccgactttg ccaccacccat ctggcagcag atggaagaac tgggaatggc ccctgccctg 480
cagcccaccc aggggtgccat gccggccttc gcctctgctt tccagcgccg ggcaggaggg 540
gtcctgggtg cctcccatct gcagagcttc ctggaggtgt cgtaccgctt tctacgccac 600
cttgcaccagc cctga 615

<210> 194
<211> 252
<212> DNA
<213> Homo sapiens

<400> 194
tctgtgagtg aaatacagct tatgcataac ctgggaaaac atctgaactc gatggagaga 60
gtagaatggc tgcgtaagaa gctgcaggat gtgcacaatt ttgttgccct tggagctcct 120
ctagctccca gagatgctgg ttcccagagg ccccgaaaaa aggaagacaa tgtcttggtt 180
gagagccatg aaaaaagtct tggagaggca gacaaagctg atgtgaatgt attaaactaaa 240
gctaaatccc ag 252

<210> 195
<211> 0
<212> DNA
<213> Homo sapiens

<400> 195
000 .

<210> 196
<211> 612
<212> DNA
<213> Homo sapiens

<400> 196
atggctggac ctgccaccca gagccccatg aagctgatgg ccctgcagct gctgctgtgg 60
cacagtgcac tctggacagt gcaggaagcc acccccctgg gccctgccag ctccctgccc 120
cagagcttcc tgetcaagtg cttagagcaa gtgaggaaga tccagggcga tggcgacgcg 180
ctccaggaga agctgtgtgc cacctacaag ctgtgccacc ccgaggagct ggtgctgctc 240
ggacactctc tgggcatccc ctgggctccc ctgagcagct gccccagcca ggccctgcag 300
ctggcaggct gcttgagcca actccatagc ggcttttcc tctaccaggg gctcctgcag 360
gccctggaag ggatctcccc cgagttgggt cccaccttgg acacactgca gctggacgtc 420
gccgactttg ccaccacccat ctggcagcag atggaagaac tgggaatggc ccctgccctg 480
cagcccaccc aggggtgccat gccggccttc gcctctgctt tccagcgccg ggcaggaggg 540
gtcctgggtg cctcccatct gcagagcttc ctggaggtgt cgtaccgctt tctacgccac 600
cttgcaccagc cc 612

<210> 197
<211> 681
<212> DNA
<213> Homo sapiens

<400> 197
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cccttcctgg ctctcagcat cttggctctg ttgcaggcag gcagcctcca tgcagcacca 120
ttcaggtctg ccctggagag cagcccagca gaccggcca cgctcagtga ggacgaagcg 180
cgctcctgc tggctgcact ggtgcaggac tatgtgcaga tgaaggccag tgagctggag 240
caggagcaag agagagaggg ctccagcctg gacagcccca gatctaagcg gtgcggtaat 300
ctgagtactt gcatgctggg cacatacacg caggacttca acaagtttca cacgttcccc 360
caaactgcaa ttgggggttgg agcacctgga aagaaaaggg atatgtccag cgacttggag 420
agagaccatc gccctcataa tcattgcccc gaagagagcc tgtgacactg ccacctgtgt 480
gactcatcgg ctggcaggct tgctgagcag atcagggggg gtggtgaaga acaactttgt 540
gccaccaat gtgggttcca aagcctttgg caggcgccgc agggaccttc aagcctgagc 600
agctgaatga ctcaagaagg tcacaataaa gctgaactcc ttttaattgtg taatgaaagc 660
aatttgtagg aaaggctcca t 681

<210> 198
<211> 543
<212> DNA
<213> Homo sapiens

<400> 198
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cgttcccttc aagacacaga ggagaaatcc agatcattct cagcttccca ggcagaccca 120
ctcagtgatc ctgatcagat gaacgaggac aagcgccatt cacagggcac attcaccagt 180
gactacagca agtatctgga ctccaggcgt gcccaagatt ttgtgcagtg gttgatgaat 240
accaagagga acaggaataa cattgccaaa cgtcacgatg aatttgagag acatgctgaa 300
gggaccttta ccagtgatgt aagttcttat ttggaaggcc aagctgcaa ggaattcatt 360
gcttggctgg tgaaaggccg aggaaggcga gatttcccag aagaggtcgc cattgttgaa 420
gaacttggcc gcagacatgc tgatggttct ttctctgatg agatgaacac cattcttgat 480
aatcttgccg ccagggaactt tataaactgg ttgattcaga ccaaaatcac tgacaggaaa 540
taa 543

<210> 199
<211> 279
<212> DNA
<213> Homo sapiens

<400> 199
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aagactgaat cctcctcacg gggaccttac caccctcag agtgctgctt cacctacact 120
acctacaaga tcccgctca gcggattatg gattactatg agaccaacag ccagtgtctc 180
aagcccgga ttgtcttcat caccaaaagg ggccattccg tctgtaccaa cccagtgac 240
aagtgggttc aggactatat caaggacatg aaggagaac 279

<210> 200
<211> 543
<212> DNA
<213> Homo sapiens

<400> 200
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cgttcccttc aagacacaga ggagaaatcc agatcattct cagcttccca ggcagaccca 120
ctcagtgatc ctgatcagat gaacgaggac aagcgccatt cacagggcac attcaccagt 180
gactacagca agtatctgga ctccaggcgt gcccaagatt ttgtgcagtg gttgatgaat 240
accaagagga acaggaataa cattgccaaa cgtcacgatg aatttgagag acatgctgaa 300
gggaccttta ccagtgatgt aagttcttat ttggaaggcc aagctgcaa ggaattcatt 360
gcttggctgg tgaaaggccg aggaaggcga gatttcccag aagaggtcgc cattgttgaa 420
gaacttggcc gcagacatgc tgatggttct ttctctgatg agatgaacac cattcttgat 480
aatcttgccg ccagggaactt tataaactgg ttgattcaga ccaaaatcac tgacaggaaa 540
taa 543

<210> 201
<211> 543

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<212> DNA
<213> Homo sapiens

<400> 201
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cgttcccttc aagacacaga ggagaaatcc agatcattct cagcttccca ggcagaccca 120
ctcagtgatc ctgatcagat gaacgaggac aagcgccatt cacagggcac attcaccagt 180
gactacagca agtatctgga ctccaggcgt gcccaagatt ttgtgcagtg gttgatgaat 240
accaagagga acaggaataa cattgccaaa cgtcacgatg aatttgagag acatgctgaa 300
gggaccttta ccagtgatgt aagttcttat ttggaaggcc aagctgcaa ggaattcatt 360
gcttggctgg tgaaaggccg aggaaggcga gatttcccag aagaggtcgc cattggtgaa 420
gaacttggcc gcagacatgc tgatggttct ttctctgatg agatgaacac cattcttgat 480
aatcttgccg ccagggactt tataaactgg ttgattcaga ccaaaatcac tgacaggaaa 540
taa 543

<210> 202
<211> 543
<212> DNA
<213> Homo sapiens

<400> 202
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cgttcccttc aagacacaga ggagaaatcc agatcattct cagcttccca ggcagaccca 120
ctcagtgatc ctgatcagat gaacgaggac aagcgccatt cacagggcac attcaccagt 180
gactacagca agtatctgga ctccaggcgt gcccaagatt ttgtgcagtg gttgatgaat 240
accaagagga acaggaataa cattgccaaa cgtcacgatg aatttgagag acatgctgaa 300
gggaccttta ccagtgatgt aagttcttat ttggaaggcc aagctgcaa ggaattcatt 360
gcttggctgg tgaaaggccg aggaaggcga gatttcccag aagaggtcgc cattggtgaa 420
gaacttggcc gcagacatgc tgatggttct ttctctgatg agatgaacac cattcttgat 480
aatcttgccg ccagggactt tataaactgg ttgattcaga ccaaaatcac tgacaggaaa 540
taa 543

<210> 203
<211> 264
<212> DNA
<213> Homo sapiens

<400> 203
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agctggcaaa tgctgttga atctgggttg tcttctgagg attctgcaag ctcagaaagc 120
tttgcttcga agattaagcg acatggtgaa ggaacattta ccagtgactt gtcaaaacag 180
atggaagagg aggcagtgcg gttatttatt gagtggctta agaacggagg accaagtagc 240
ggggcacctc cgccatcggg ttaa 264

<210> 204
<211> 264
<212> DNA
<213> Homo sapiens

<400> 204
atgaaaatca tctgtggtc gtgtgttttt gggctgttcc ttgcaacttt attccctatc 60
agctggcaaa tgctgttga atctgggttg tcttctgagg attctgcaag ctcagaaagc 120
tttgcttcga agattaagcg acatggtgaa ggaacattta ccagtgactt gtcaaaacag 180
atggaagagg aggcagtgcg gttatttatt gagtggctta agaacggagg accaagtagc 240
ggggcacctc cgccatcggg ttaa 264

<210> 205
<211> 330
<212> DNA
<213> Homo sapiens

<400> 205
agcgccgggg ctggcagcca ctgtcaaaag acctccctgc gggtaaactt cgaggacatc 60

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ggctgggaca gctggatcat tgcacccaag gagtatgaag cctacgagtg taagggcggc 120
tgctttcttc ccttggtgta cgatgtgacg ccgacgaaac acgctatcgt gcagaccctg 180
gtgcatctca agttccccac aaaggtgggc aaggcctgct gtgtgcccac caaactgagc 240
cccatctccg tcctctacaa ggatgacatg ggggtgcca ccctcaagta ccattacgag 300
ggcatgagcg tggcagagtg tgggtgcagg

```

<210> 206
 <211> 279
 <212> DNA
 <213> Homo sapiens

```

<400> 206
atggctcgcc tacagactgc actcctgggt gtyctcgcc tccttgctgt ggcgcttcaa 60
gcaactgagg caggcccccta cggcgccaac atggaagaca gcgtctgctg ccgtgattac 120
gtccgttacc gtctgcccct gcgcgtggtg aaacacttct actggacctc agactcctgc 180
ccgaggcctg gcgtggtggt gctaaccctc agggataagg agatctgtgc tgatcccaga 240
gtgccctggg tgaagatgat tctcaataag ctgagccaa 279

```

<210> 207
 <211> 279
 <212> DNA
 <213> Homo sapiens

```

<400> 207
atggctcgcc tacagactgc actcctgggt gtyctcgcc tccttgctgt ggcgcttcaa 60
gcaactgagg caggcccccta cggcgccaac atggaagaca gcgtctgctg ccgtgattac 120
gtccgttacc gtctgcccct gcgcgtggtg aaacacttct actggacctc agactcctgc 180
ccgaggcctg gcgtggtggt gctaaccctc agggataagg agatctgtgc tgatcccaga 240
gtgccctggg tgaagatgat tctcaataag ctgagccaa 279

```

<210> 208
 <211> 279
 <212> DNA
 <213> Homo sapiens

```

<400> 208
atggctcgcc tacagactgc actcctgggt gtyctcgcc tccttgctgt ggcgcttcaa 60
gcaactgagg caggcccccta cggcgccaac atggaagaca gcgtctgctg ccgtgattac 120
gtccgttacc gtctgcccct gcgcgtggtg aaacacttct actggacctc agactcctgc 180
ccgaggcctg gcgtggtggt gctaaccctc agggataagg agatctgtgc tgatcccaga 240
gtgccctggg tgaagatgat tctcaataag ctgagccaa 279

```

<210> 209
 <211> 279
 <212> DNA
 <213> Homo sapiens

```

<400> 209
atggctcgcc tacagactgc actcctgggt gtyctcgcc tccttgctgt ggcgcttcaa 60
gcaactgagg caggcccccta cggcgccaac atggaagaca gcgtctgctg ccgtgattac 120
gtccgttacc gtctgcccct gcgcgtggtg aaacacttct actggacctc agactcctgc 180
ccgaggcctg gcgtggtgat gctaaccctc agggataagg agatctgtgc tgatcccaga 240
gtgccctggg tgaagatgat tctcaataag ctgagccaa 279

```

<210> 210
 <211> 411
 <212> DNA
 <213> Homo sapiens

```

<400> 210
atgaggacgc ctgggcctct gcccgctgctg ctgctgctcc tggcgggagc ccccgccgag 60

```

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| cgggccactc | ccccgacctg | ctactcccgc | atgcggggccc | tgagccagga | gatcaccgcg | 120 |
| gacttcaacc | tcctgcaggt | ctcggagccc | tcggagccat | gtgtgagata | cctgcccagg | 180 |
| ctgtacctgg | acatacacia | ttactgtgtg | ctggacaagc | tgccggactt | tgtggcctcg | 240 |
| cccccggtgt | ggaaagtggc | ccaggtagat | tccttgaagg | acaaagcacg | gaagctgtac | 300 |
| accatcatga | actcgttctg | caggagagat | ttggtattcc | tggttgatga | ctgcaatgcc | 360 |
| ttggaatacc | caatcccagt | gactacggtc | ctgccagatc | gtcagcgcta | a | 411 |

<210> 211

<211> 411

<212> DNA

<213> Homo sapiens

<400> 211

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| atgaggacgc | ctgggcctct | gcccgtgctg | ctgctgctcc | tgccgggagc | ccccgccgcg | 60 |
| cgggccactc | ccccgacctg | ctactcccgc | atgcggggccc | tgagccagga | gatcaccgcg | 120 |
| gacttcaacc | tcctgcaggt | ctcggagccc | tcggagccat | gtgtgagata | cctgcccagg | 180 |
| ctgtacctgg | acatacacia | ttactgtgtg | ctggacaagc | tgccggactt | tgtggcctcg | 240 |
| cccccggtgt | ggaaagtggc | ccaggtagat | tccttgaagg | acaaagcacg | gaagctgtac | 300 |
| accatcatga | actcgttctg | caggagagat | ttggtattcc | tggttgatga | ctgcaatgcc | 360 |
| ttggaatacc | caatcccagt | gactacggtc | ctgccagatc | gtcagcgcta | a | 411 |

<210> 212

<211> 561

<212> DNA

<213> Homo sapiens

<400> 212

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|-----|
| atgaccaaca | agtgtctcct | ccaaattgct | ctcctgttgt | gcttctccac | tacagctctt | 60 |
| tccatgagct | acaacttgct | tggattccta | caaagaagca | gcaattttca | gtgtcagaag | 120 |
| ctcctgtggc | aattgaatgg | gaggcttgaa | tattgectca | aggacaggat | gaactttgac | 180 |
| atccctgagg | agattaagca | gctgcagcag | ttccagaagg | aggacgccgc | attgaccatc | 240 |
| tatgagatgc | tccagaacat | ctttgctatt | ttcagacaag | attcatctag | cactggctgg | 300 |
| aatgagacta | ttgttgagaa | cctcctggct | aatgtctatc | atcagataaa | ccatctgaag | 360 |
| acagtctctg | aagaaaaact | ggagaaaagaa | gatttcacca | ggggaaaact | catgagcagt | 420 |
| ctgcacctga | aaagatatata | tgggaggatt | ctgcattacc | tgaaggccaa | ggagtacagt | 480 |
| cactgtgcct | ggaccatagt | cagagtggaa | atcctaagga | acttttactt | cattaacaga | 540 |
| cttacagggt | acctccgaaa | c | | | | 561 |

<210> 213

<211> 627

<212> DNA

<213> Homo sapiens

<400> 213

| | | | | | | |
|------------|-------------|------------|------------|-------------|------------|-----|
| atgtggaaat | ggatactgac | acattgtgcc | tcagcctttc | cccacctgcc | cggctgctgc | 60 |
| tgctgctgct | ttttgttgct | gttcttggtg | tcttccgtcc | ctgtcacctg | ccaagccctt | 120 |
| ggtcaggaca | tgggtgcacc | agaggccacc | aactcttctt | cctcctcctt | ctcctctcct | 180 |
| tccagcgcg | gaaggcatgt | gcggagctac | aatcaccttc | aaggagatgt | ccgctggaga | 240 |
| aagctattct | ctttcaccaa | gtactttctc | aagattgaga | agaacgggaa | ggtcagcggg | 300 |
| accaagaagg | agaactgccc | gtacagcatc | ctggagataa | catcagtaga | aatcggagtt | 360 |
| gttgccgtca | aagccattaa | cagcaactat | tacttagcca | tgaacaagaa | ggggaaactc | 420 |
| tatggctcaa | aagaatttaa | caatgactgt | aagctgaagg | agaggataga | ggaaaaatga | 480 |
| tacaatacct | atgcatcatt | taactggcag | cataatggga | ggcaaatgta | tgtggcattg | 540 |
| aatggaaaag | gagctccaag | gagaggacag | aaaacacgaa | ggaaaaaacac | ctctgctcac | 600 |
| tttcttccaa | tgggtggtaca | ctcatag | | | | 627 |

<210> 214

<211> 627

<212> DNA

<213> Homo sapiens

<400> 214

| | | | | | | |
|------------|------------|------------|------------|------------|------------|----|
| atgtggaaat | ggatactgac | acattgtgcc | tcagcctttc | cccacctgcc | cggctgctgc | 60 |
|------------|------------|------------|------------|------------|------------|----|

His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365

Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly
 610 615 620
 Glu Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg
 625 630 635 640
 Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg
 645 650 655
 His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn
 660 665 670
 Val Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr
 675 680 685
 His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly
 690 695 700

Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala
705 710 715 720
Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly
725 730 735
Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg
740 745 750
Asn Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser
755 760 765
His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg
770 775 780
Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala
785 790 795 800
Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu
805 810 815
Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala
820 825 830
Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln
835 840 845
Asp Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg
850 855 860
Met Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His
865 870 875 880

<210> 218
<211> 874
<212> PRT
<213> Homo sapiens

<400> 218
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15
Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
20 25 30
His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
35 40 45
Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
50 55 60
Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
65 70 75 80
Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
85 90 95
Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
100 105 110
Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln

| 115 | | | | | 120 | | | | | 125 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| 130 | | | | | | 135 | | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | 185 | | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | | 260 | | | | 265 | | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | 275 | | | | | 280 | | | | | 285 | | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | 355 | | | | | 360 | | | | | 365 | | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | 425 | | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | 435 | | | | | 440 | | | | | | 445 | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |

| 450 | 455 | 460 |
|--|--|-----|
| Pro Glu Ala Lys Arg Met 465 | Pro Cys Ala Glu Asp Tyr Leu Ser Val Val 470 | 475 |
| Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg 485 | 490 | 495 |
| Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe 500 | 505 | 510 |
| Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala 515 | 520 | 525 |
| Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu 530 | 535 | 540 |
| Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys 545 | 550 | 555 |
| Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala 565 | 570 | 575 |
| Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe 580 | 585 | 590 |
| Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly 595 | 600 | 605 |
| Leu Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly 610 | 615 | 620 |
| Glu Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg 625 | 630 | 635 |
| Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg 645 | 650 | 655 |
| His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn 660 | 665 | 670 |
| Val Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr 675 | 680 | 685 |
| His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly 690 | 695 | 700 |
| Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala 705 | 710 | 715 |
| Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly 725 | 730 | 735 |
| Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg 740 | 745 | 750 |
| Asn Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser 755 | 760 | 765 |
| His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg 770 | 775 | 780 |
| Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 785 | | 790 | | 795 | | 800 | | | | | | | | | |
| Phe | Gln | Asp | Ile | Ser | Ile | Lys | Arg | Leu | Gln | Arg | Leu | Leu | Gln | Ala | Leu |
| | | | | 805 | | | | | 810 | | | | | 815 | |
| Glu | Ala | Pro | Glu | Gly | Trp | Gly | Pro | Thr | Pro | Arg | Ala | Gly | Arg | Ala | Ala |
| | | | 820 | | | | | 825 | | | | | 830 | | |
| Leu | Gln | Leu | Lys | Leu | Arg | Arg | Arg | Leu | Thr | Glu | Leu | Leu | Gly | Ala | Gln |
| | | 835 | | | | | 840 | | | | | 845 | | | |
| Asp | Gly | Ala | Leu | Leu | Val | Arg | Leu | Leu | Gln | Ala | Leu | Arg | Val | Ala | Arg |
| | 850 | | | | | 855 | | | | | | 860 | | | |
| Met | Pro | Gly | Leu | Glu | Arg | Ser | Val | Arg | Glu | | | | | | |
| 865 | | | | | | 870 | | | | | | | | | |

<210> 219
 <211> 868
 <212> PRT
 <213> Homo sapiens

| |
|---|
| <400> 219 |
| Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala |
| 1 5 10 15 |
| Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala |
| 20 25 30 |
| His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu |
| 35 40 45 |
| Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val |
| 50 55 60 |
| Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp |
| 65 70 75 80 |
| Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp |
| 85 90 95 |
| Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala |
| 100 105 110 |
| Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln |
| 115 120 125 |
| His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val |
| 130 135 140 |
| Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys |
| 145 150 155 160 |
| Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro |
| 165 170 175 |
| Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys |
| 180 185 190 |
| Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu |
| 195 200 205 |

Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540

Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly
 610 615 620
 Glu Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg
 625 630 635 640
 Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg
 645 650 655
 His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn
 660 665 670
 Val Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr
 675 680 685
 His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly
 690 695 700
 Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala
 705 710 715 720
 Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly
 725 730 735
 Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg
 740 745 750
 Asn Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser
 755 760 765
 His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg
 770 775 780
 Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala
 785 790 795 800
 Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu
 805 810 815
 Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala
 820 825 830
 Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln
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 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
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 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
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Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
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 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
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 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
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 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
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 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
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 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly
 610 615 620
 Glu Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg
 625 630 635 640

Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg
 645 650 655
 His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn
 660 665 670
 Val Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr
 675 680 685
 His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly
 690 695 700
 Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala
 705 710 715 720
 Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly
 725 730 735
 Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg
 740 745 750
 Asn Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser
 755 760 765
 His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg
 770 775 780
 Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala
 785 790 795 800
 Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu
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 Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala
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 Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln
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 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | 340 | | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | 355 | | | | | | 360 | | | | | 365 | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |

| 405 | | | | | | | | | | 410 | | | | | 415 | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | | | | |
| | | | 420 | | | | | 425 | | | | | 430 | | | | | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | | | | |
| | | 435 | | | | | 440 | | | | | 445 | | | | | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | | | | |
| | 450 | | | | | 455 | | | | | 460 | | | | | | | | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | | | | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | | | | |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg | | | | |
| | | | | 485 | | | | | 490 | | | | | 495 | | | | | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe | | | | |
| | | | 500 | | | | | 505 | | | | | 510 | | | | | | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala | | | | |
| | | 515 | | | | | 520 | | | | | 525 | | | | | | | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu | | | | |
| | 530 | | | | | 535 | | | | | 540 | | | | | | | | |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys | | | | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | | | | |
| Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala | | | | |
| | | | | 565 | | | | | 570 | | | | | 575 | | | | | |
| Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe | | | | |
| | | | 580 | | | | | 585 | | | | | 590 | | | | | | |
| Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly | | | | |
| | | 595 | | | | | 600 | | | | | 605 | | | | | | | |
| Leu | Val | Ala | Glu | Thr | Pro | Thr | Tyr | Pro | Trp | Arg | Asp | Ala | Glu | Thr | Gly | | | | |
| | 610 | | | | | 615 | | | | | 620 | | | | | | | | |
| Glu | Arg | Leu | Val | Cys | Ala | Gln | Cys | Pro | Pro | Gly | Thr | Phe | Val | Gln | Arg | | | | |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 | | | | |
| Pro | Cys | Arg | Arg | Asp | Ser | Pro | Thr | Thr | Cys | Gly | Pro | Cys | Pro | Pro | Arg | | | | |
| | | | | 645 | | | | | 650 | | | | | 655 | | | | | |
| His | Tyr | Thr | Gln | Phe | Trp | Asn | Tyr | Leu | Glu | Arg | Cys | Arg | Tyr | Cys | Asn | | | | |
| | | | 660 | | | | | 665 | | | | | 670 | | | | | | |
| Val | Leu | Cys | Gly | Glu | Arg | Glu | Glu | Glu | Ala | Arg | Ala | Cys | His | Ala | Thr | | | | |
| | | 675 | | | | | 680 | | | | | 685 | | | | | | | |
| His | Asn | Arg | Ala | Cys | Arg | Cys | Arg | Thr | Gly | Phe | Phe | Ala | His | Ala | Gly | | | | |
| | 690 | | | | | 695 | | | | | 700 | | | | | | | | |
| Phe | Cys | Leu | Glu | His | Ala | Ser | Cys | Pro | Pro | Gly | Ala | Gly | Val | Ile | Ala | | | | |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 | | | | |
| Pro | Gly | Thr | Pro | Ser | Gln | Asn | Thr | Gln | Cys | Gln | Pro | Cys | Pro | Pro | Gly | | | | |
| | | | | 725 | | | | | 730 | | | | | 735 | | | | | |
| Thr | Phe | Ser | Ala | Ser | Ser | Ser | Ser | Ser | Glu | Gln | Cys | Gln | Pro | His | Arg | | | | |

| 740 | | | | | 745 | | | | | 750 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Cys | Thr | Ala | Leu | Gly | Leu | Ala | Leu | Asn | Val | Pro | Gly | Ser | Ser | Ser |
| | 755 | | | | | | 760 | | | | | 765 | | | |
| His | Asp | Thr | Leu | Cys | Thr | Ser | Cys | Thr | Gly | Phe | Pro | Leu | Ser | Thr | Arg |
| | 770 | | | | | 775 | | | | | 780 | | | | |
| Val | Pro | Gly | Ala | Glu | Glu | Cys | Glu | Arg | Ala | Val | Ile | Asp | Phe | Val | Ala |
| 785 | | | | | 790 | | | | | 795 | | | | | 800 |
| Phe | Gln | Asp | Ile | Ser | Ile | Lys | Arg | Leu | Gln | Arg | Leu | Leu | Gln | Ala | Leu |
| | | | | 805 | | | | | 810 | | | | | 815 | |
| Glu | Ala | Pro | Glu | Gly | Trp | Gly | Pro | Thr | Pro | Arg | Ala | Gly | Arg | Ala | Ala |
| | | | 820 | | | | | 825 | | | | | 830 | | |
| Leu | Gln | Leu | Lys | Leu | Arg | Arg | Arg | Leu | Thr | Glu | Leu | Leu | Gly | Ala | Gln |
| | | 835 | | | | | 840 | | | | | 845 | | | |
| Asp | Gly | Ala | Leu | Leu | Val | Arg | Leu | Leu | Gln | Ala | Leu | Arg | Val | Ala | Arg |
| | 850 | | | | | 855 | | | | | 860 | | | | |
| Met | Pro | Gly | Leu | Glu | Arg | Ser | Val | Arg | Glu | Arg | Phe | Leu | Pro | Val | His |
| 865 | | | | | | 870 | | | | | 875 | | | | 880 |

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| <400> 222 | | | | | | | | | | | | | | | |
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| Met | Lys | Trp | Val | Ser | Phe | Ile | Ser | Leu | Leu | Phe | Leu | Phe | Ser | Ser | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Ser | Arg | Ser | Leu | Asp | Lys | Arg | Val | Ala | Glu | Thr | Pro | Thr | Tyr | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Trp | Arg | Asp | Ala | Glu | Thr | Gly | Glu | Arg | Leu | Val | Cys | Ala | Gln | Cys | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Gly | Thr | Phe | Val | Gln | Arg | Pro | Cys | Arg | Arg | Asp | Ser | Pro | Thr | Thr |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Cys | Gly | Pro | Cys | Pro | Pro | Arg | His | Tyr | Thr | Gln | Phe | Trp | Asn | Tyr | Leu |
| 65 | | | | | | 70 | | | | | 75 | | | | 80 |
| Glu | Arg | Cys | Arg | Tyr | Cys | Asn | Val | Leu | Cys | Gly | Glu | Arg | Glu | Glu | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ala | Arg | Ala | Cys | His | Ala | Thr | His | Asn | Arg | Ala | Cys | Arg | Cys | Arg | Thr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Phe | Phe | Ala | His | Ala | Gly | Phe | Cys | Leu | Glu | His | Ala | Ser | Cys | Pro |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Pro | Gly | Ala | Gly | Val | Ile | Ala | Pro | Gly | Thr | Pro | Ser | Gln | Asn | Thr | Gln |
| | 130 | | | | | 135 | | | | | 140 | | | | |

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Gln | Pro | Cys | Pro | Pro | Gly | Thr | Phe | Ser | Ala | Ser | Ser | Ser | Ser | Ser | 145 | 150 | 155 | 160 |
| Glu | Gln | Cys | Gln | Pro | His | Arg | Asn | Cys | Thr | Ala | Leu | Gly | Leu | Ala | Leu | 165 | 170 | 175 | |
| Asn | Val | Pro | Gly | Ser | Ser | Ser | His | Asp | Thr | Leu | Cys | Thr | Ser | Cys | Thr | 180 | 185 | 190 | |
| Gly | Phe | Pro | Leu | Ser | Thr | Arg | Val | Pro | Gly | Ala | Glu | Glu | Cys | Glu | Arg | 195 | 200 | 205 | |
| Ala | Val | Ile | Asp | Phe | Val | Ala | Phe | Gln | Asp | Ile | Ser | Ile | Lys | Arg | Leu | 210 | 215 | 220 | |
| Gln | Arg | Leu | Leu | Gln | Ala | Leu | Glu | Ala | Pro | Glu | Gly | Trp | Gly | Pro | Thr | 225 | 230 | 235 | 240 |
| Pro | Arg | Ala | Gly | Arg | Ala | Ala | Leu | Gln | Leu | Lys | Leu | Arg | Arg | Arg | Leu | 245 | 250 | 255 | |
| Thr | Glu | Leu | Leu | Gly | Ala | Gln | Asp | Gly | Ala | Leu | Leu | Val | Arg | Leu | Leu | 260 | 265 | 270 | |
| Gln | Ala | Leu | Arg | Val | Ala | Arg | Met | Pro | Gly | Leu | Glu | Arg | Ser | Val | Arg | 275 | 280 | 285 | |
| Glu | Arg | Phe | Leu | Pro | Val | His | Asp | Ala | His | Lys | Ser | Glu | Val | Ala | His | 290 | 295 | 300 | |
| Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu | Ile | 305 | 310 | 315 | 320 |
| Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | Val | Lys | 325 | 330 | 335 | |
| Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp | Glu | 340 | 345 | 350 | |
| Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | Lys | 355 | 360 | 365 | |
| Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | Asp | 370 | 375 | 380 | |
| Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | His | 385 | 390 | 395 | 400 |
| Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | Asp | 405 | 410 | 415 | |
| Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | Lys | 420 | 425 | 430 | |
| Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | Glu | 435 | 440 | 445 | |
| Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | Cys | 450 | 455 | 460 | |
| Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | Leu | 465 | 470 | 475 | 480 |

Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala
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 Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala
 500 505 510
 Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys
 515 520 525
 Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly Asp
 530 535 540
 Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys
 545 550 555 560
 Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys
 565 570 575
 Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu
 580 585 590
 Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys
 595 600 605
 Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met
 610 615 620
 Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu
 625 630 635 640
 Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys
 645 650 655
 Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe
 660 665 670
 Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu
 675 680 685
 Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val
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 Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu
 705 710 715 720
 Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro
 725 730 735
 Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu
 740 745 750
 Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg Val
 755 760 765
 Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser
 770 775 780
 Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu
 785 790 795 800
 Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg
 805 810 815

Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys Pro
 820 825 830
 Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala
 835 840 845
 Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala
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 Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
 35 40 45
 Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
 50 55 60
 Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
 65 70 75 80
 Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
 85 90 95
 Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
 100 105 110
 Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
 115 120 125
 His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
 130 135 140
 Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala
 145 150 155 160
 Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
 165 170 175
 Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His Asp Thr Leu
 180 185 190
 Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val Pro Gly Ala
 195 200 205

77

Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala
 545 550 555 560
 Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys
 565 570 575
 Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile
 580 585 590
 Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala
 595 600 605
 Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala
 610 615 620
 Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His
 625 630 635 640
 Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu
 645 650 655
 Thr Thr Leu Glu Lys Cys Cys Ala Ala Asp Pro His Glu Cys Tyr
 660 665 670
 Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn
 675 680 685
 Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys
 690 695 700
 Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val
 705 710 715 720
 Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly
 725 730 735
 Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu
 740 745 750
 Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys
 755 760 765
 Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val
 770 775 780
 Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val
 785 790 795 800
 Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys
 805 810 815
 Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val
 820 825 830
 Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala
 835 840 845
 Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp
 850 855 860
 Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala
 865 870 875 880

Ser Gln Ala Ala Leu Gly Leu
885

<210> 224
<211> 879
<212> PRT
<213> Homo sapiens

<400> 224
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15
Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
20 25 30
His Arg Phe Lys Asp Leu Gly Glu Asn Phe Lys Ala Leu Val Leu
35 40 45
Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
50 55 60
Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
65 70 75 80
Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
85 90 95
Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
100 105 110
Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
115 120 125
His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
130 135 140
Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
145 150 155 160
Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
165 170 175
Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
180 185 190
Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
195 200 205
Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
210 215 220
Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
225 230 235 240
Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
245 250 255
Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
260 265 270
Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile

| 275 | | | | | 280 | | | | | 285 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| 290 | | | | | 295 | | | | | 300 | | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | | 370 | | | | | 375 | | | | | 380 | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | 425 | | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |
| | | 450 | | | | 455 | | | | | 460 | | | | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu |
| | | 530 | | | | 535 | | | | | 540 | | | | |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly |
| | | 595 | | | | | 600 | | | | | 605 | | | |
| Val | Ala | Glu | Thr | Pro | Thr | Tyr | Pro | Trp | Arg | Asp | Ala | Glu | Thr | Gly | Glu |

| 610 | 615 | 620 |
|--|-----|-----|
| Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro 625 630 635 640 | | |
| Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His 645 650 655 | | |
| Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val 660 665 670 | | |
| Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His 675 680 685 | | |
| Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe 690 695 700 | | |
| Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro 705 710 715 720 | | |
| Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr 725 730 735 | | |
| Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn 740 745 750 | | |
| Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His 755 760 765 | | |
| Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val 770 775 780 | | |
| Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe 785 790 795 800 | | |
| Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu 805 810 815 | | |
| Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu 820 825 830 | | |
| Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp 835 840 845 | | |
| Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met 850 855 860 | | |
| Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His 865 870 875 | | |

<210> 225
 <211> 783
 <212> PRT
 <213> Homo sapiens

<400> 225
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Thr Pro Leu Gly Pro Ala Ser Ser
 20 25 30

Leu Pro Gln Ser Phe Leu Leu Lys Cys Leu Glu Gln Val Arg Lys Ile
 35 40 45
 Gln Gly Asp Gly Ala Ala Leu Gln Glu Lys Leu Cys Ala Thr Tyr Lys
 50 55 60
 Leu Cys His Pro Glu Glu Leu Val Leu Leu Gly His Ser Leu Gly Ile
 65 70 75 80
 Pro Trp Ala Pro Leu Ser Ser Cys Pro Ser Gln Ala Leu Gln Leu Ala
 85 90 95
 Gly Cys Leu Ser Gln Leu His Ser Gly Leu Phe Leu Tyr Gln Gly Leu
 100 105 110
 Leu Gln Ala Leu Glu Gly Ile Ser Pro Glu Leu Gly Pro Thr Leu Asp
 115 120 125
 Thr Leu Gln Leu Asp Val Ala Asp Phe Ala Thr Thr Ile Trp Gln Gln
 130 135 140
 Met Glu Glu Leu Gly Met Ala Pro Ala Leu Gln Pro Thr Gln Gly Ala
 145 150 155 160
 Met Pro Ala Phe Ala Ser Ala Phe Gln Arg Arg Ala Gly Gly Val Leu
 165 170 175
 Val Ala Ser His Leu Gln Ser Phe Leu Glu Val Ser Tyr Arg Val Leu
 180 185 190
 Arg His Leu Ala Gln Pro Asp Ala His Lys Ser Glu Val Ala His Arg
 195 200 205
 Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala
 210 215 220
 Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys Leu
 225 230 235 240
 Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
 245 250 255
 Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
 260 265 270
 Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys
 275 280 285
 Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
 290 295 300
 Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val
 305 310 315 320
 Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr
 325 330 335
 Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
 340 345 350
 Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln
 355 360 365

Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg
 370 375 380
 Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser
 385 390 395 400
 Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
 405 410 415
 Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu
 420 425 430
 Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu
 435 440 445
 Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu
 450 455 460
 Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro
 465 470 475 480
 Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met
 485 490 495
 Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp
 500 505 510
 Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe
 515 520 525
 Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu
 530 535 540
 Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala
 545 550 555 560
 Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys
 565 570 575
 Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu
 580 585 590
 Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg
 595 600 605
 Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val
 610 615 620
 Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu
 625 630 635 640
 Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn
 645 650 655
 Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr
 660 665 670
 Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala
 675 680 685
 Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr
 690 695 700

Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln
 705 710 715 720
 Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys
 725 730 735
 Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe
 740 745 750
 Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu
 755 760 765
 Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
 770 775 780

<210> 226
 <211> 783
 <212> PRT
 <213> Homo sapiens

<400> 226
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205

Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540

Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu
 610 615 620
 Lys Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu
 625 630 635 640
 Gln Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu
 645 650 655
 Val Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser
 660 665 670
 Cys Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His
 675 680 685
 Ser Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile
 690 695 700
 Ser Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala
 705 710 715 720
 Asp Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala
 725 730 735
 Pro Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala
 740 745 750
 Phe Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser
 755 760 765
 Phe Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
 770 775 780

<210> 227

<211> 880

<212> PRT

<213> Homo sapiens

<400> 227

Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Val Ala Glu Thr Pro Thr Tyr Pro
 20 25 30
 Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val Cys Ala Gln Cys Pro
 35 40 45
 Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg Asp Ser Pro Thr Thr

| 50 | | | | | | 55 | | | | | | 60 | | | | | |
|---------|-----|-----|-----|--------|-----|-----|-----|---------|--------|--------|-----|-----|-----|-----|---------|--|--|
| Cys 65 | Gly | Pro | Cys | Pro | Pro | Arg | His | Tyr | Thr | Gln 75 | Phe | Trp | Asn | Tyr | Leu 80 | | |
| Glu | Arg | Cys | Arg | Tyr 85 | Cys | Asn | Val | Leu | Cys 90 | Gly | Glu | Arg | Glu | Glu | Glu 95 | | |
| Ala | Arg | Ala | Cys | His | Ala | Thr | His | Asn 105 | Arg | Ala | Cys | Arg | Cys | Arg | Thr 110 | | |
| Gly | Phe | Phe | Ala | His | Ala | Gly | Phe | Cys | Leu | Glu | His | Ala | Ser | Cys | Pro 115 | | |
| Pro | Gly | Ala | Gly | Val | Ile | Ala | Pro | Gly | Thr | Pro | Ser | Gln | Asn | Thr | Gln 130 | | |
| Cys 145 | Gln | Pro | Cys | Pro | Pro | Gly | Thr | Phe | Ser | Ala | Ser | Ser | Ser | Ser | Ser 150 | | |
| Glu | Gln | Cys | Gln | Pro | His | Arg | Gln | Cys | Thr | Ala | Leu | Gly | Leu | Ala | Leu 165 | | |
| Asn | Val | Pro | Gly | Ser | Ser | Ser | His | Asp | Thr | Leu | Cys | Thr | Ser | Cys | Thr 180 | | |
| Gly | Phe | Pro | Leu | Ser | Thr | Arg | Val | Pro | Gly | Ala | Glu | Glu | Cys | Glu | Arg 195 | | |
| Ala | Val | Ile | Asp | Phe | Val | Ala | Phe | Gln | Asp | Ile | Ser | Ile | Lys | Arg | Leu 210 | | |
| Gln | Arg | Leu | Leu | Gln | Ala | Leu | Glu | Ala | Pro | Glu | Gly | Trp | Gly | Pro | Thr 225 | | |
| Pro | Arg | Ala | Gly | Arg | Ala | Ala | Leu | Gln | Leu | Lys | Leu | Arg | Arg | Arg | Leu 245 | | |
| Thr | Glu | Leu | Leu | Gly | Ala | Gln | Asp | Gly | Ala | Leu | Leu | Val | Arg | Leu | Leu 260 | | |
| Gln | Ala | Leu | Arg | Val | Ala | Arg | Met | Pro | Gly | Leu | Glu | Arg | Ser | Val | Arg 275 | | |
| Glu | Arg | Phe | Leu | Pro | Val | His | Asp | Ala | His | Lys | Ser | Glu | Val | Ala | His 290 | | |
| Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu | Ile 305 | | |
| Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | Val | Lys 325 | | |
| Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp | Glu 340 | | |
| Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | Lys 355 | | |
| Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | Asp 370 | | |
| Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | His | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 385 | | | | | 390 | | | | | 395 | | | | 400 |
| Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| | | | | 405 | | | | | 410 | | | | 415 | Asp |
| Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| | | | 420 | | | | 425 | | | | | | 430 | Lys |
| Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | 435 | | | | | 440 | | | | | 445 | | Glu |
| Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | 450 | | | | | 455 | | | | | 460 | | | Cys |
| Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| 465 | | | | | 470 | | | | | 475 | | | | 480 |
| Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| | | | | 485 | | | | | 490 | | | | | 495 |
| Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| | | | 500 | | | | | 505 | | | | | 510 | Ala |
| Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | 515 | | | | | 520 | | | | | 525 | | Lys |
| Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | 530 | | | | | 535 | | | | | 540 | | | Asp |
| Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| 545 | | | | | 550 | | | | 555 | | | | | 560 |
| Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | | | | 565 | | | | | 570 | | | | | 575 |
| Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| | | | 580 | | | | 585 | | | | | | 590 | Glu |
| Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | 595 | | | | | 600 | | | | | 605 | | Lys |
| Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | 610 | | | | | 615 | | | | | 620 | | | Met |
| Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| 625 | | | | | 630 | | | | | 635 | | | | 640 |
| Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | | | | 645 | | | | | 650 | | | | | 655 |
| Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| | | | 660 | | | | | 665 | | | | | 670 | Phe |
| Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | 675 | | | | | 680 | | | | | 685 | | Glu |
| Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | 690 | | | | | 695 | | | | 700 | | | | Val |
| Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| 705 | | | | | 710 | | | | | 715 | | | | 720 |
| Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |
| | | | | | | | | | | | | | | Pro |

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | 145 | 150 | 155 | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | 165 | 170 | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | 180 | 185 | 190 | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | 195 | 200 | 205 | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | 210 | 215 | 220 | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | 225 | 230 | 235 | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | 245 | 250 | | 255 |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | 260 | 265 | 270 | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | 275 | 280 | 285 | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | 290 | 295 | 300 | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | 305 | 310 | 315 | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | 325 | 330 | | 335 |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | 340 | 345 | 350 | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | 355 | 360 | 365 | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | 370 | 375 | 380 | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | 385 | 390 | 395 | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | 405 | 410 | | 415 |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | 420 | 425 | 430 | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | 435 | 440 | 445 | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | 450 | 455 | 460 | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | 465 | 470 | 475 | 480 |

Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ala Gln Val Leu Ser Lys Val Gly Gly Ser Val Leu Leu Val Ala
 610 615 620
 Ala Arg Pro Pro Gly Phe Gln Val Arg Glu Ala Ile Trp Arg Ser Leu
 625 630 635 640
 Trp Pro Ser Glu Glu Leu Leu Ala Thr Phe Phe Arg Gly Ser Leu Glu
 645 650 655
 Thr Leu Tyr His Ser Arg Phe Leu Gly Arg Ala Gln Leu His Ser Asn
 660 665 670
 Leu Ser Leu Glu Leu Gly Pro Leu Glu Ser Gly Asp Ser Gly Asn Phe
 675 680 685
 Ser Val Leu Met Val Asp Thr Arg Gly Gln Pro Trp Thr Gln Thr Leu
 690 695 700
 Gln Leu Lys Val Tyr Asp Ala Val Pro Arg Pro Val Val Gln Val Phe
 705 710 715 720
 Ile Ala Val Glu Arg Asp Ala Gln Pro Ser Lys Thr Cys Gln Val Phe
 725 730 735
 Leu Ser Cys Trp Ala Pro Asn Ile Ser Glu Ile Thr Tyr Ser Trp Arg
 740 745 750
 Arg Glu Thr Thr Met Asp Phe Gly Met Glu Pro His Ser Leu Phe Thr
 755 760 765
 Asp Gly Gln Val Leu Ser Ile Ser Leu Gly Pro Gly Asp Arg Asp Val
 770 775 780
 Ala Tyr Ser Cys Ile Val Ser Asn Pro Val Ser Trp Asp Leu Ala Thr
 785 790 795 800
 Val Thr Pro Trp Asp Ser Cys His His Glu Ala Ala Pro Gly Lys Ala
 805 810 815

Ser Tyr Lys Asp
820

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<211> 763
<212> PRT
<213> Homo sapiens

<400> 229
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
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His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
35 40 45
Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
50 55 60
Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
65 70 75 80
Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
85 90 95
Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
100 105 110
Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
115 120 125
His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
130 135 140
Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
145 150 155 160
Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
165 170 175
Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
180 185 190
Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
195 200 205
Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
210 215 220
Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
225 230 235 240
Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
245 250 255
Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
260 265 270
Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile

| 275 | | | | | 280 | | | | | 285 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| 290 | | | | | 295 | | | | | 300 | | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | | 370 | | | | | 375 | | | | | 380 | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | 425 | | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |
| | | 450 | | | | 455 | | | | | 460 | | | | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg |
| | | | 485 | | | | | | 490 | | | | | 495 | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu |
| | | 530 | | | | 535 | | | | | 540 | | | | |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe |
| | | | 580 | | | | 585 | | | | | | 590 | | |
| Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly |
| | | 595 | | | | | 600 | | | | | 605 | | | |
| Leu | Leu | Glu | Ala | Val | Gln | Gly | Pro | Glu | Glu | Thr | Val | Thr | Gln | Asp | Cys |

| 610 | 615 | 620 |
|---|-----|-------------|
| Leu Gln Leu Ile Ala Asp Ser Glu Thr Pro Thr Ile Gln Lys Gly Ser | | |
| 625 | 630 | 635 640 |
| Tyr Thr Phe Val Pro Trp Leu Leu Ser Phe Lys Arg Gly Ser Ala Leu | | |
| | 645 | 650 655 |
| Glu Glu Lys Glu Asn Lys Ile Leu Val Lys Glu Thr Gly Tyr Phe Phe | | |
| | 660 | 665 670 |
| Ile Tyr Gly Gln Val Leu Tyr Thr Asp Lys Thr Tyr Ala Met Gly His | | |
| | 675 | 680 685 |
| Leu Ile Gln Arg Lys Lys Val His Val Phe Gly Asp Glu Leu Ser Leu | | |
| | 690 | 695 700 |
| Val Thr Leu Phe Arg Cys Ile Gln Asn Met Pro Glu Thr Leu Pro Asn | | |
| | 705 | 710 715 720 |
| Asn Ser Cys Tyr Ser Ala Gly Ile Ala Lys Leu Glu Glu Gly Asp Glu | | |
| | 725 | 730 735 |
| Leu Gln Leu Ala Ile Pro Arg Glu Asn Ala Gln Ile Ser Leu Asp Gly | | |
| | 740 | 745 750 |
| Asp Val Thr Phe Phe Gly Ala Leu Lys Leu Leu | | |
| | 755 | 760 |

<210> 230
 <211> 687
 <212> PRT
 <213> Homo sapiens

| <400> 230 |
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| Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala |
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| Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala |
| 20 25 30 |
| His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu |
| 35 40 45 |
| Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val |
| 50 55 60 |
| Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp |
| 65 70 75 80 |
| Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp |
| 85 90 95 |
| Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala |
| 100 105 110 |
| Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln |
| 115 120 125 |
| His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val |
| 130 135 140 |

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | 145 | 150 | 155 | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | 165 | 170 | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | 180 | 185 | 190 | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | 195 | 200 | 205 | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | 210 | 215 | 220 | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | 225 | 230 | 235 | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | 245 | 250 | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | 260 | 265 | 270 | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | 275 | 280 | 285 | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | 290 | 295 | 300 | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | 305 | 310 | 315 | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | 325 | 330 | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | 340 | 345 | 350 | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | 355 | 360 | 365 | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | 370 | 375 | 380 | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | 385 | 390 | 395 | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | 405 | 410 | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | 420 | 425 | 430 | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | 435 | 440 | 445 | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | 450 | 455 | 460 | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | 465 | 470 | 475 | 480 |

Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Leu Glu Asp Arg Phe His Ala Thr Ser Ala Asp Cys Cys Ile Ser
 610 615 620
 Tyr Thr Pro Arg Ser Ile Pro Cys Ser Leu Leu Glu Ser Tyr Phe Glu
 625 630 635 640
 Thr Asn Ser Glu Cys Ser Lys Pro Gly Val Ile Phe Leu Thr Lys Lys
 645 650 655
 Gly Arg Arg Phe Cys Ala Asn Pro Ser Asp Lys Gln Val Gln Val Cys
 660 665 670
 Met Arg Met Leu Lys Leu Asp Thr Arg Ile Lys Thr Arg Lys Asn
 675 680 685

<210> 231
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 <212> PRT
 <213> Homo sapiens

<400> 231
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | |
| Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | | |
| | | | | 165 | | | | | 170 | | | | | 175 | | | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | | |
| | | | 180 | | | | | 185 | | | | | | 190 | | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | | |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | | |
| | | | | 245 | | | | | 250 | | | | | 255 | | | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | | |
| | | | 260 | | | | | 265 | | | | | | 270 | | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | | |
| | 275 | | | | | | 280 | | | | | | 285 | | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | | |
| | 290 | | | | | 295 | | | | | 300 | | | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | | |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | | |
| | | | | 325 | | | | | 330 | | | | | 335 | | | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | | |
| | | | 340 | | | | | 345 | | | | | 350 | | | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | | |
| | 355 | | | | | | 360 | | | | | 365 | | | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | | |
| | 370 | | | | | 375 | | | | | | 380 | | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | | |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | | |
| | | | | 405 | | | | | 410 | | | | | 415 | | | |

Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ala Pro Ala Arg Ser Pro Ser Pro Ser Thr Gln Pro Trp Glu His
 610 615 620
 Val Asn Ala Ile Gln Glu Ala Arg Arg Leu Leu Asn Leu Ser Arg Asp
 625 630 635 640
 Thr Ala Ala Glu Met Asn Glu Thr Val Glu Val Ile Ser Glu Met Phe
 645 650 655
 Asp Leu Gln Glu Pro Thr Cys Leu Gln Thr Arg Leu Glu Leu Tyr Lys
 660 665 670
 Gln Gly Leu Arg Gly Ser Leu Thr Lys Leu Lys Gly Pro Leu Thr Met
 675 680 685
 Met Ala Ser His Tyr Lys Gln His Cys Pro Pro Thr Pro Glu Thr Ser
 690 695 700
 Cys Ala Thr Gln Ile Ile Thr Phe Glu Ser Phe Lys Glu Asn Leu Lys
 705 710 715 720
 Asp Phe Leu Leu Val Ile Pro Phe Asp Cys Trp Glu Pro Val Gln Glu
 725 730 735

<210> 232

<211> 736

<212> PRT

<213> Homo sapiens

<400> 232

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Trp | Val | Ser | Phe | Ile | Ser | Leu | Leu | Phe | Leu | Phe | Ser | Ser | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Ser | Arg | Ser | Leu | Asp | Lys | Arg | Ala | Pro | Ala | Arg | Ser | Pro | Ser | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Thr | Gln | Pro | Trp | Glu | His | Val | Asn | Ala | Ile | Gln | Glu | Ala | Arg | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Leu | Asn | Leu | Ser | Arg | Asp | Thr | Ala | Ala | Glu | Met | Asn | Glu | Thr | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Glu | Val | Ile | Ser | Glu | Met | Phe | Asp | Leu | Gln | Glu | Pro | Thr | Cys | Leu | Gln |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Thr | Arg | Leu | Glu | Leu | Tyr | Lys | Gln | Gly | Leu | Arg | Gly | Ser | Leu | Thr | Lys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Lys | Gly | Pro | Leu | Thr | Met | Met | Ala | Ser | His | Tyr | Lys | Gln | His | Cys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Pro | Thr | Pro | Glu | Thr | Ser | Cys | Ala | Thr | Gln | Ile | Ile | Thr | Phe | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ser | Phe | Lys | Glu | Asn | Leu | Lys | Asp | Phe | Leu | Leu | Val | Ile | Pro | Phe | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Cys | Trp | Glu | Pro | Val | Gln | Glu | Asp | Ala | His | Lys | Ser | Glu | Val | Ala | His |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu | Ile |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | Val | Lys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | Lys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | Asp |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | His |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | Asp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | Lys |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | Cys |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |

Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu
 325 330 335
 Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala
 340 345 350
 Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala
 355 360 365
 Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys
 370 375 380
 Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly Asp
 385 390 395 400
 Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys
 405 410 415
 Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys
 420 425 430
 Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu
 435 440 445
 Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys
 450 455 460
 Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met
 465 470 475 480
 Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu
 485 490 495
 Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys
 500 505 510
 Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe
 515 520 525
 Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu
 530 535 540
 Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val
 545 550 555 560
 Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu
 565 570 575
 Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro
 580 585 590
 Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu
 595 600 605
 Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg Val
 610 615 620
 Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser
 625 630 635 640
 Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu
 645 650 655

Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg
 660 665 670
 Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys Pro
 675 680 685
 Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala
 690 695 700
 Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala
 705 710 715 720
 Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
 725 730 735

<210> 233
 <211> 880
 <212> PRT
 <213> Homo sapiens

<400> 233
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys

| 210 | 215 | 220 |
|--|-----|-----|
| Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val 225 230 235 240 | | |
| Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser 245 250 255 | | |
| Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly 260 265 270 | | |
| Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile 275 280 285 | | |
| Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu 290 295 300 | | |
| Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp 305 310 315 320 | | |
| Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser 325 330 335 | | |
| Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly 340 345 350 | | |
| Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val 355 360 365 | | |
| Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys 370 375 380 | | |
| Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu 385 390 395 400 | | |
| Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys 405 410 415 | | |
| Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu 420 425 430 | | |
| Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val 435 440 445 | | |
| Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His 450 455 460 | | |
| Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val 465 470 475 480 | | |
| Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg 485 490 495 | | |
| Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe 500 505 510 | | |
| Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala 515 520 525 | | |
| Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu 530 535 540 | | |
| Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys | | |

| | | | | | | |
|---|---|-------------------------|-----|-----|--|-----|
| 545 | | 550 | | 555 | | 560 |
| Pro Lys Ala Thr | Lys Glu Gln Leu Lys Ala | Val Met Asp Asp Phe Ala | | | | |
| | 565 | 570 | 575 | | | |
| Ala Phe Val Glu | Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe | | | | | |
| | 580 | 585 | 590 | | | |
| Ala Glu Glu Gly | Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly | | | | | |
| | 595 | 600 | 605 | | | |
| Leu Val Ala Glu Thr | Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly | | | | | |
| | 610 | 615 | 620 | | | |
| Glu Arg Leu Val Cys | Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg | | | | | |
| | 630 | 635 | 640 | | | |
| Pro Cys Arg Arg | Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg | | | | | |
| | 645 | 650 | 655 | | | |
| His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn | | | | | | |
| | 660 | 665 | 670 | | | |
| Val Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr | | | | | | |
| | 675 | 680 | 685 | | | |
| His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly | | | | | | |
| | 690 | 695 | 700 | | | |
| Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala | | | | | | |
| | 710 | 715 | 720 | | | |
| Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly | | | | | | |
| | 725 | 730 | 735 | | | |
| Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg | | | | | | |
| | 740 | 745 | 750 | | | |
| Gln Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser | | | | | | |
| | 755 | 760 | 765 | | | |
| His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg | | | | | | |
| | 770 | 775 | 780 | | | |
| Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala | | | | | | |
| | 785 | 790 | 795 | | | |
| Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu | | | | | | |
| | 805 | 810 | 815 | | | |
| Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala | | | | | | |
| | 820 | 825 | 830 | | | |
| Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln | | | | | | |
| | 835 | 840 | 845 | | | |
| Asp Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg | | | | | | |
| | 850 | 855 | 860 | | | |
| Met Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His | | | | | | |
| | 865 | 870 | 875 | | | |
| | | | 880 | | | |

<210> 234
 <211> 874
 <212> PRT
 <213> Homo sapiens

<400> 234
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285

Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Leu Glu Asp Asp Asp Lys Val Ala Glu Thr Pro Thr Tyr Pro Trp
 610 615 620

Arg Asp Ala Glu Thr Gly Glu Arg Leu Val Cys Ala Gln Cys Pro Pro
 625 630 635 640
 Gly Thr Phe Val Gln Arg Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys
 645 650 655
 Gly Pro Cys Pro Pro Arg His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu
 660 665 670
 Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly Glu Arg Glu Glu Glu Ala
 675 680 685
 Arg Ala Cys His Ala Thr His Asn Arg Ala Cys Arg Cys Arg Thr Gly
 690 695 700
 Phe Phe Ala His Ala Gly Phe Cys Leu Glu His Ala Ser Cys Pro Pro
 705 710 715 720
 Gly Ala Gly Val Ile Ala Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys
 725 730 735
 Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu
 740 745 750
 Gln Cys Gln Pro His Arg Asn Cys Thr Ala Leu Gly Leu Ala Leu Asn
 755 760 765
 Val Pro Gly Ser Ser Ser His Asp Thr Leu Cys Thr Ser Cys Thr Gly
 770 775 780
 Phe Pro Leu Ser Thr Arg Val Pro Gly Ala Glu Glu Cys Glu Arg Ala
 785 790 795 800
 Val Ile Asp Phe Val Ala Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln
 805 810 815
 Arg Leu Leu Gln Ala Leu Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro
 820 825 830
 Arg Ala Gly Arg Ala Ala Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr
 835 840 845
 Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu Leu Val Arg Leu Leu Gln
 850 855 860
 Ala Leu Arg Val Ala Arg Met Pro Gly Leu
 865 870

<210> 235
 <211> 870
 <212> PRT
 <213> Homo sapiens

<400> 235
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30

His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365

Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Leu Glu Asp Asp Asp Lys Val Ala Glu Thr Pro Thr Tyr Pro Trp
 610 615 620
 Arg Asp Ala Glu Thr Gly Glu Arg Leu Val Cys Ala Gln Cys Pro Pro
 625 630 635 640
 Gly Thr Phe Val Gln Arg Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys
 645 650 655
 Gly Pro Cys Pro Pro Arg His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu
 660 665 670
 Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly Glu Arg Glu Glu Glu Ala
 675 680 685
 Arg Ala Cys His Ala Thr His Asn Arg Ala Cys Arg Cys Arg Thr Gly
 690 695 700

Phe Phe Ala His Ala Gly Phe Cys Leu Glu His Ala Ser Cys Pro Pro
 705 710 715 720
 Gly Ala Gly Val Ile Ala Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys
 725 730 735
 Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu
 740 745 750
 Gln Cys Gln Pro His Arg Asn Cys Thr Ala Leu Gly Leu Ala Leu Asn
 755 760 765
 Val Pro Gly Ser Ser Ser His Asp Thr Leu Cys Thr Ser Cys Thr Gly
 770 775 780
 Phe Pro Leu Ser Thr Arg Val Pro Gly Ala Glu Glu Cys Glu Arg Ala
 785 790 795 800
 Val Ile Asp Phe Val Ala Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln
 805 810 815
 Arg Leu Leu Gln Ala Leu Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro
 820 825 830
 Arg Ala Gly Arg Ala Ala Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr
 835 840 845
 Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu Leu Val Arg Leu Leu Gln
 850 855 860
 Ala Leu Arg Val Ala Arg
 865 870

<210> 236
 <211> 876
 <212> PRT
 <213> Homo sapiens

<400> 236
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln

| 115 | | | | | 120 | | | | | 125 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| 130 | | | | | | 135 | | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| 210 | | | | | 215 | | | | | 220 | | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | 275 | | | | | 280 | | | | | 285 | | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| 290 | | | | | 295 | | | | | 300 | | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | 355 | | | | | 360 | | | | | 365 | | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| 370 | | | | | 375 | | | | | 380 | | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | 425 | | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | 435 | | | | | 440 | | | | | 445 | | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |

| 450 | 455 | 460 | | | | | | | | | | | | | | |
|-------------------------|---|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|
| Pro Glu Ala Lys Arg Met | Pro Cys Ala Glu Asp Tyr Leu Ser Val Val | | | | | | | | | | | | | | | |
| 465 | 470 | 475 | | | | | | | | | | | | | | 480 |
| Leu Asn Gln Leu Cys Val | Leu His Glu Lys Thr Pro Val Ser Asp Arg | | | | | | | | | | | | | | | |
| | 485 | 490 | | | | | | | | | | | | | | 495 |
| Val Thr Lys Cys Cys Thr | Glu Ser Leu Val Asn Arg Arg Pro Cys Phe | | | | | | | | | | | | | | | |
| | 500 | 505 | | | | | | | | | | | | | | 510 |
| Ser Ala Leu Glu Val Asp | Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala | | | | | | | | | | | | | | | |
| | 515 | 520 | | | | | | | | | | | | | | 525 |
| Glu Thr Phe Thr Phe His | Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu | | | | | | | | | | | | | | | |
| | 530 | 535 | | | | | | | | | | | | | | 540 |
| Arg Gln Ile Lys Lys Gln | Thr Ala Leu Val Glu Leu Val Lys His Lys | | | | | | | | | | | | | | | |
| 545 | 550 | 555 | | | | | | | | | | | | | | 560 |
| Pro Lys Ala Thr Lys Glu | Gln Leu Lys Ala Val Met Asp Asp Phe Ala | | | | | | | | | | | | | | | |
| | 565 | 570 | | | | | | | | | | | | | | 575 |
| Ala Phe Val Glu Lys Cys | Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe | | | | | | | | | | | | | | | |
| | 580 | 585 | | | | | | | | | | | | | | 590 |
| Ala Glu Glu Gly Lys Lys | Leu Val Ala Ala Ser Gln Ala Ala Leu Gly | | | | | | | | | | | | | | | |
| | 595 | 600 | | | | | | | | | | | | | | 605 |
| Leu Leu Glu Val Ala Glu | Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu | | | | | | | | | | | | | | | |
| | 610 | 615 | | | | | | | | | | | | | | 620 |
| Thr Gly Glu Arg Leu Val | Cys Ala Gln Cys Pro Pro Gly Thr Phe Val | | | | | | | | | | | | | | | |
| 625 | 630 | 635 | | | | | | | | | | | | | | 640 |
| Gln Arg Pro Cys Arg Arg | Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro | | | | | | | | | | | | | | | |
| | 645 | 650 | | | | | | | | | | | | | | 655 |
| Pro Arg His Tyr Thr Gln | Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr | | | | | | | | | | | | | | | |
| | 660 | 665 | | | | | | | | | | | | | | 670 |
| Cys Asn Val Leu Cys Gly | Glu Arg Glu Glu Glu Ala Arg Ala Cys His | | | | | | | | | | | | | | | |
| | 675 | 680 | | | | | | | | | | | | | | 685 |
| Ala Thr His Asn Arg Ala | Cys Arg Cys Arg Thr Gly Phe Phe Ala His | | | | | | | | | | | | | | | |
| | 690 | 695 | | | | | | | | | | | | | | 700 |
| Ala Gly Phe Cys Leu Glu | His Ala Ser Cys Pro Pro Gly Ala Gly Val | | | | | | | | | | | | | | | |
| 705 | 710 | 715 | | | | | | | | | | | | | | 720 |
| Ile Ala Pro Gly Thr Pro | Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro | | | | | | | | | | | | | | | |
| | 725 | 730 | | | | | | | | | | | | | | 735 |
| Pro Gly Thr Phe Ser Ala | Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro | | | | | | | | | | | | | | | |
| | 740 | 745 | | | | | | | | | | | | | | 750 |
| His Arg Asn Cys Thr Ala | Leu Gly Leu Ala Leu Asn Val Pro Gly Ser | | | | | | | | | | | | | | | |
| | 755 | 760 | | | | | | | | | | | | | | 765 |
| Ser Ser His Asp Thr Leu | Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser | | | | | | | | | | | | | | | |
| | 770 | 775 | | | | | | | | | | | | | | 780 |
| Thr Arg Val Pro Gly Ala | Glu Glu Cys Glu Arg Ala Val Ile Asp Phe | | | | | | | | | | | | | | | |

785 790 795 800
 Val Ala Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln
 805 810 815
 Ala Leu Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg
 820 825 830
 Ala Ala Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly
 835 840 845
 Ala Gln Asp Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val
 850 855 860
 Ala Arg Met Pro Gly Leu Glu Arg Ser Val Arg Glu
 865 870 875

<210> 237
 <211> 795
 <212> PRT
 <213> Homo sapiens

<400> 237
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205

Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540

Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Leu Glu Asp Asp Asp Lys Leu Asp Cys Asn Leu Leu Asn Val His
 610 615 620
 Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu Ser Ser Met Ser
 625 630 635 640
 Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile Ala Phe Glu Leu
 645 650 655
 Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys Arg Asp Ile Lys
 660 665 670
 Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn Ile Phe Ser Gln
 675 680 685
 His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys Gln Ile Gln Ile
 690 695 700
 Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys Leu Glu Glu Asp
 705 710 715 720
 Glu Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu Asn Glu Met Lys
 725 730 735
 Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu Glu Leu Arg Arg
 740 745 750
 Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys Lys Tyr Ser Asp
 755 760 765
 Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg Cys Leu Tyr Tyr
 770 775 780
 Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys
 785 790 795

<210> 238
 <211> 653
 <212> PRT
 <213> Homo sapiens

<400> 238
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30

His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365

Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Tyr Ala Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Gly
 610 615 620
 Gln Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Met Ser Arg Gln Gln
 625 630 635 640
 Gly Glu Ser Asn Gln Glu Arg Gly Ala Arg Ala Arg Leu
 645 650

<210> 239
 <211> 653
 <212> PRT
 <213> Homo sapiens

<400> 239
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala

| | | | |
|---|-----|-----|-----|
| 1 | 5 | 10 | 15 |
| Tyr Ser Arg Ser Leu Asp Lys Arg Tyr Ala Asp Ala Ile Phe Thr Asn | 20 | 25 | 30 |
| Ser Tyr Arg Lys Val Leu Gly Gln Leu Ser Ala Arg Lys Leu Leu Gln | 35 | 40 | 45 |
| Asp Ile Met Ser Arg Gln Gln Gly Glu Ser Asn Gln Glu Arg Gly Ala | 50 | 55 | 60 |
| Arg Ala Arg Leu Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys | 65 | 70 | 75 |
| Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala | 85 | 90 | 95 |
| Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn | 100 | 105 | 110 |
| Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu | 115 | 120 | 125 |
| Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr | 130 | 135 | 140 |
| Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala | 145 | 150 | 155 |
| Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp | 165 | 170 | 175 |
| Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys | 180 | 185 | 190 |
| Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr | 195 | 200 | 205 |
| Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe | 210 | 215 | 220 |
| Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala | 225 | 230 | 235 |
| Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu | 245 | 250 | 255 |
| Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln | 260 | 265 | 270 |
| Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser | 275 | 280 | 285 |
| Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr | 290 | 295 | 300 |
| Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu | 305 | 310 | 315 |
| Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln | 325 | 330 | 335 |
| Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu | | | |

| 340 | | | | | 345 | | | | | 350 | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | Glu | Met | Pro | Ala | |
| 355 | | | | | 360 | | | | | 365 | | | | | | |
| Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | Lys | Asp | Val | Cys | |
| 370 | | | | | 375 | | | | | 380 | | | | | | |
| Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | Met | Phe | Leu | Tyr | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | Leu | Leu | Leu | Arg | |
| 405 | | | | | 410 | | | | | 415 | | | | | | |
| Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | Cys | Ala | Ala | Ala | |
| 420 | | | | | 425 | | | | | 430 | | | | | | |
| Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | Phe | Lys | Pro | Leu | |
| 435 | | | | | 440 | | | | | 445 | | | | | | |
| Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | Glu | Leu | Phe | Glu | |
| 450 | | | | | 455 | | | | | 460 | | | | | | |
| Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | Val | Arg | Tyr | Thr | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | |
| Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | Glu | Val | Ser | Arg | |
| 485 | | | | | 490 | | | | | 495 | | | | | | |
| Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | Pro | Glu | Ala | Lys | |
| 500 | | | | | 505 | | | | | 510 | | | | | | |
| Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | Leu | Asn | Gln | Leu | |
| 515 | | | | | 520 | | | | | 525 | | | | | | |
| Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg | Val | Thr | Lys | Cys | |
| 530 | | | | | 535 | | | | | 540 | | | | | | |
| Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe | Ser | Ala | Leu | Glu | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | |
| Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala | Glu | Thr | Phe | Thr | |
| 565 | | | | | 570 | | | | | 575 | | | | | | |
| Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu | Arg | Gln | Ile | Lys | |
| 580 | | | | | 585 | | | | | 590 | | | | | | |
| Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys | Pro | Lys | Ala | Thr | |
| 595 | | | | | 600 | | | | | 605 | | | | | | |
| Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala | Ala | Phe | Val | Glu | |
| 610 | | | | | 615 | | | | | 620 | | | | | | |
| Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe | Ala | Glu | Glu | Gly | |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 | |
| Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly | Leu | | | | |
| 645 | | | | | 650 | | | | | | | | | | | |

<210> 240
 <211> 643

<212> PRT

<213> Homo sapiens

<400> 240

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Trp | Val | Thr | Phe | Ile | Ser | Leu | Leu | Phe | Leu | Phe | Ser | Ser | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Ser | Arg | Gly | Val | Phe | Arg | Arg | Asp | Ala | His | Lys | Ser | Glu | Val | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| | 130 | | | | | | 135 | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |

Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu
 610 615 620
 Asn Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val
 625 630 635 640
 His Asn Phe

<210> 241
 <211> 643
 <212> PRT
 <213> Homo sapiens

<400> 241

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Trp | Val | Ser | Phe | Ile | Ser | Leu | Leu | Phe | Leu | Phe | Ser | Ser | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Ser | Arg | Ser | Leu | Asp | Lys | Arg | Ser | Val | Ser | Glu | Ile | Gln | Leu | Met |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| His | Asn | Leu | Gly | Lys | His | Leu | Asn | Ser | Met | Glu | Arg | Val | Glu | Trp | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Arg | Lys | Lys | Leu | Gln | Asp | Val | His | Asn | Phe | Asp | Ala | His | Lys | Ser | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu |
| | 65 | | | | 70 | | | | | 75 | | | | | 80 |
| Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe |
| | 145 | | | | 150 | | | | | 155 | | | | | 160 |
| Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu |
| | 225 | | | | 230 | | | | | 235 | | | | | 240 |
| Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu |
| | | 275 | | | | | 280 | | | | | 285 | | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | |
| 290 | | | | | | 295 | | | | | 300 | | | | | |
| His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| Asn | Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | |
| | | 355 | | | | | 360 | | | | | 365 | | | | |
| Glu | Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Leu | Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| Val | Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | |
| | | | | 405 | | | | | 410 | | | | | 415 | | |
| Lys | Cys | Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | |
| | | | 420 | | | | | 425 | | | | | 430 | | | |
| Asp | Glu | Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | |
| | | 435 | | | | | 440 | | | | | 445 | | | | |
| Asn | Cys | Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | |
| | 450 | | | | | 455 | | | | | 460 | | | | | |
| Leu | Leu | Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | |
| Leu | Val | Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | |
| | | | | 485 | | | | | 490 | | | | | 495 | | |
| Lys | His | Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | |
| | | 500 | | | | | | 505 | | | | | 510 | | | |
| Val | Val | Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | |
| | | 515 | | | | | 520 | | | | | 525 | | | | |
| Asp | Arg | Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | |
| | 530 | | | | | 535 | | | | | | 540 | | | | |
| Cys | Phe | Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | |
| Asn | Ala | Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | |
| | | | | 565 | | | | | 570 | | | | | 575 | | |
| Lys | Glu | Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | |
| | | | 580 | | | | | 585 | | | | | 590 | | | |
| His | Lys | Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | |
| | | 595 | | | | | 600 | | | | | 605 | | | | |
| Phe | Ala | Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | |
| | 610 | | | | | 615 | | | | | 620 | | | | | |

Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
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Leu Gly Leu

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<211> 742

<212> PRT

<213> Homo sapiens

<400> 242

Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
35 40 45

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
50 55 60

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
65 70 75 80

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
85 90 95

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
100 105 110

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
115 120 125

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
130 135 140

Trp Ile Thr Phe Ser Gln Ser Ile Ile Ser Thr Leu Thr Asp Ala His
145 150 155 160

Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe
165 170 175

Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
180 185 190

Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys
195 200 205

Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
210 215 220

Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
225 230 235 240

Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
245 250 255

Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu

| 260 | | | | | 265 | | | | | 270 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Arg | Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Glu | Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Tyr | Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala |
| 305 | | | | | | 310 | | | | | 315 | | | | 320 |
| Ala | Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Pro | Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Gln | Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Lys | Ala | Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Phe | Ala | Glu | Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr |
| 385 | | | | | | 390 | | | | | 395 | | | | 400 |
| Glu | Cys | Cys | His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Leu | Ala | Lys | Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Lys | Glu | Cys | Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Glu | Val | Glu | Asn | Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Asp | Phe | Val | Glu | Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys |
| 465 | | | | | | 470 | | | | | 475 | | | | 480 |
| Asp | Val | Phe | Leu | Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Asp | Tyr | Ser | Val | Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Thr | Leu | Glu | Lys | Cys | Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Lys | Val | Phe | Asp | Glu | Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu |
| | | 530 | | | | 535 | | | | | 540 | | | | |
| Ile | Lys | Gln | Asn | Cys | Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe |
| 545 | | | | | | 550 | | | | | 555 | | | | 560 |
| Gln | Asn | Ala | Leu | Leu | Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Thr | Pro | Thr | Leu | Val | Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Lys | Cys | Cys | Lys | His | Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp |

595 600 605
 Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr
 610 615 620
 Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn
 625 630 635 640
 Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro
 645 650 655
 Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr
 660 665 670
 Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu
 675 680 685
 Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val
 690 695 700
 Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp
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 Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser
 725 730 735
 Gln Ala Ala Leu Gly Leu
 740

<210> 243
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 <212> PRT
 <213> Homo sapiens

<400> 243
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | 145 | 150 | 155 | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | 165 | 170 | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | 180 | 185 | 190 | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | 195 | 200 | 205 | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | 210 | 215 | 220 | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | 225 | 230 | 235 | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | 245 | 250 | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | 260 | 265 | 270 | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | 275 | 280 | 285 | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | 290 | 295 | 300 | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | 305 | 310 | 315 | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | 325 | 330 | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | 340 | 345 | 350 | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | 355 | 360 | 365 | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | 370 | 375 | 380 | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | 385 | 390 | 395 | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | 405 | 410 | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | 420 | 425 | 430 | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | 435 | 440 | 445 | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | 450 | 455 | 460 | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | 465 | 470 | 475 | 480 |

Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu
 610 615 620
 His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr
 625 630 635 640
 Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro
 645 650 655
 Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu
 660 665 670
 Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His
 675 680 685
 Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu
 690 695 700
 Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr
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 Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ser Gln Ser
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 Ile Ile Ser Thr Leu Thr
 740

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 <211> 774
 <212> PRT
 <213> Homo sapiens

<400> 244
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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Tyr Ser Arg Ser Leu Asp Lys Arg Ala Pro Pro Arg Leu Ile Cys Asp
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Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn
35 40 45
Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr
50 55 60
Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val
65 70 75 80
Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu
85 90 95
Ala Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp
100 105 110
Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser
115 120 125
Leu Thr Thr Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu Ala Ile Ser
130 135 140
Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp
145 150 155 160
Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys
165 170 175
Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Asp Ala His
180 185 190
Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe
195 200 205
Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
210 215 220
Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys
225 230 235 240
Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
245 250 255
Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
260 265 270
Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
275 280 285
Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
290 295 300
Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu
305 310 315 320
Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
325 330 335
Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
340 345 350

Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
 355 360 365
 Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
 370 375 380
 Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe
 385 390 395 400
 Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu
 405 410 415
 Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr
 420 425 430
 Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp
 435 440 445
 Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu
 450 455 460
 Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala
 465 470 475 480
 Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala
 485 490 495
 Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys
 500 505 510
 Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro
 515 520 525
 Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr
 530 535 540
 Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala
 545 550 555 560
 Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu
 565 570 575
 Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe
 580 585 590
 Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser
 595 600 605
 Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser
 610 615 620
 Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp
 625 630 635 640
 Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr
 645 650 655
 Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn
 660 665 670
 Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro
 675 680 685

Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr
 690 695 700
 Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu
 705 710 715 720
 Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val
 725 730 735
 Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp
 740 745 750
 Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser
 755 760 765
 Gln Ala Ala Leu Gly Leu
 770

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 <212> PRT
 <213> Homo sapiens

<400> 245
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 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu

| 195 | | | | | 200 | | | | | 205 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| 210 | | | | | 215 | | | | | 220 | | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | | 310 | | | | | 315 | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | | 370 | | | | | 375 | | | | | 380 | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | | 390 | | | | | 395 | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | 425 | | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |
| | | 450 | | | | 455 | | | | | 460 | | | | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val |
| 465 | | | | | | 470 | | | | | 475 | | | | 480 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu |

| 530 | 535 | 540 |
|--|-----|-----|
| Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys 545 550 555 560 | | |
| Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala 565 570 575 | | |
| Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe 580 585 590 | | |
| Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly 595 600 605 | | |
| Leu Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr 610 615 620 | | |
| Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu 625 630 635 640 | | |
| His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn 645 650 655 | | |
| Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val 660 665 670 | | |
| Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala 675 680 685 | | |
| Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val 690 695 700 | | |
| Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala 705 710 715 720 | | |
| Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala 725 730 735 | | |
| Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg 740 745 750 | | |
| Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu 755 760 765 | | |
| Ala Cys Arg Thr Gly Asp 770 | | |

<210> 246
 <211> 844
 <212> PRT
 <213> Homo sapiens

| |
|--|
| <400> 246 |
| Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala 1 5 10 15 |
| Tyr Ser Arg Ser Leu Asp Lys Arg Leu Pro Ala Gln Val Ala Phe Thr 20 25 30 |
| Pro Tyr Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr 35 40 45 |

Asp Gln Thr Ala Gln Met Cys Cys Ser Lys Cys Ser Pro Gly Gln His
 50 55 60
 Ala Lys Val Phe Cys Thr Lys Thr Ser Asp Thr Val Cys Asp Ser Cys
 65 70 75 80
 Glu Asp Ser Thr Tyr Thr Gln Leu Trp Asn Trp Val Pro Glu Cys Leu
 85 90 95
 Ser Cys Gly Ser Arg Cys Ser Ser Asp Gln Val Glu Thr Gln Ala Cys
 100 105 110
 Thr Arg Glu Gln Asn Arg Ile Cys Thr Cys Arg Pro Gly Trp Tyr Cys
 115 120 125
 Ala Leu Ser Lys Gln Glu Gly Cys Arg Leu Cys Ala Pro Leu Arg Lys
 130 135 140
 Cys Arg Pro Gly Phe Gly Val Ala Arg Pro Gly Thr Glu Thr Ser Asp
 145 150 155 160
 Val Val Cys Lys Pro Cys Ala Pro Gly Thr Phe Ser Asn Thr Thr Ser
 165 170 175
 Ser Thr Asp Ile Cys Arg Pro His Gln Ile Cys Asn Val Val Ala Ile
 180 185 190
 Pro Gly Asn Ala Ser Met Asp Ala Val Cys Thr Ser Thr Ser Pro Thr
 195 200 205
 Arg Ser Met Ala Pro Gly Ala Val His Leu Pro Gln Pro Val Ser Thr
 210 215 220
 Arg Ser Gln His Thr Gln Pro Thr Pro Glu Pro Ser Thr Ala Pro Ser
 225 230 235 240
 Thr Ser Phe Leu Leu Pro Met Gly Pro Ser Pro Pro Ala Glu Gly Ser
 245 250 255
 Thr Gly Asp Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp
 260 265 270
 Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln
 275 280 285
 Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu
 290 295 300
 Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn
 305 310 315 320
 Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val
 325 330 335
 Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys
 340 345 350
 Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn
 355 360 365
 Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr
 370 375 380

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | 385 | 390 | 395 | 400 |
| Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | 405 | 410 | 415 | |
| Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | 420 | 425 | 430 | |
| Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | 435 | 440 | 445 | |
| Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | 450 | 455 | 460 | |
| Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | 465 | 470 | 475 | 480 |
| Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | Lys | Leu | Val | Thr | Asp | 485 | 490 | 495 | |
| Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | Asp | Leu | Leu | Glu | Cys | 500 | 505 | 510 | |
| Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | Cys | Glu | Asn | Gln | Asp | 515 | 520 | 525 | |
| Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | Lys | Pro | Leu | Leu | Glu | 530 | 535 | 540 | |
| Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | Glu | Met | Pro | Ala | Asp | 545 | 550 | 555 | 560 |
| Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | Lys | Asp | Val | Cys | Lys | 565 | 570 | 575 | |
| Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | Met | Phe | Leu | Tyr | Glu | 580 | 585 | 590 | |
| Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | Leu | Leu | Leu | Arg | Leu | 595 | 600 | 605 | |
| Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | Cys | Ala | Ala | Ala | Asp | 610 | 615 | 620 | |
| Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | Phe | Lys | Pro | Leu | Val | 625 | 630 | 635 | 640 |
| Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | Glu | Leu | Phe | Glu | Gln | 645 | 650 | 655 | |
| Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | Val | Arg | Tyr | Thr | Lys | 660 | 665 | 670 | |
| Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | Glu | Val | Ser | Arg | Asn | 675 | 680 | 685 | |
| Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | Pro | Glu | Ala | Lys | Arg | 690 | 695 | 700 | |
| Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | Leu | Asn | Gln | Leu | Cys | 705 | 710 | 715 | 720 |

Val Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys
 725 730 735
 Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val
 740 745 750
 Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe
 755 760 765
 His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys
 770 775 780
 Gln Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys
 785 790 795 800
 Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys
 805 810 815
 Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys
 820 825 830
 Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
 835 840

<210> 247
 <211> 775
 <212> PRT
 <213> Homo sapiens

<400> 247
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Met Ser Tyr Asn Leu Leu Gly Phe
 20 25 30
 Leu Gln Arg Ser Ser Asn Phe Gln Cys Gln Lys Leu Leu Trp Gln Leu
 35 40 45
 Asn Gly Arg Leu Glu Tyr Cys Leu Lys Asp Arg Met Asn Phe Asp Ile
 50 55 60
 Pro Glu Glu Ile Lys Gln Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala
 65 70 75 80
 Leu Thr Ile Tyr Glu Met Leu Gln Asn Ile Phe Ala Ile Phe Arg Gln
 85 90 95
 Asp Ser Ser Ser Thr Gly Trp Asn Glu Thr Ile Val Glu Asn Leu Leu
 100 105 110
 Ala Asn Val Tyr His Gln Ile Asn His Leu Lys Thr Val Leu Glu Glu
 115 120 125
 Lys Leu Glu Lys Glu Asp Phe Thr Arg Gly Lys Leu Met Ser Ser Leu
 130 135 140
 His Leu Lys Arg Tyr Tyr Gly Arg Ile Leu His Tyr Leu Lys Ala Lys
 145 150 155 160

Glu Tyr Ser His Cys Ala Trp Thr Ile Val Arg Val Glu Ile Leu Arg
 165 170 175
 Asn Phe Tyr Phe Ile Asn Arg Leu Thr Gly Tyr Leu Arg Asn Asp Ala
 180 185 190
 His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn
 195 200 205
 Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys
 210 215 220
 Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala
 225 230 235 240
 Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu
 245 250 255
 His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu
 260 265 270
 Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg
 275 280 285
 Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg
 290 295 300
 Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn
 305 310 315 320
 Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His
 325 330 335
 Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys
 340 345 350
 Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu
 355 360 365
 Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala
 370 375 380
 Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala
 385 390 395 400
 Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala
 405 410 415
 Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His
 420 425 430
 Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala
 435 440 445
 Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys
 450 455 460
 Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile
 465 470 475 480
 Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala
 485 490 495

Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala
 500 505 510
 Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His
 515 520 525
 Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu
 530 535 540
 Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr
 545 550 555 560
 Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn
 565 570 575
 Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys
 580 585 590
 Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val
 595 600 605
 Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly
 610 615 620
 Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu
 625 630 635 640
 Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys
 645 650 655
 Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val
 660 665 670
 Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val
 675 680 685
 Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys
 690 695 700
 Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val
 705 710 715 720
 Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala
 725 730 735
 Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp
 740 745 750
 Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala
 755 760 765
 Ser Gln Ala Ala Leu Gly Leu
 770 775

<210> 248
 <211> 775
 <212> PRT
 <213> Homo sapiens

<400> 248
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala

| 1 | 5 | 10 | 15 |
|---|-----|-----|-----|
| Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala | 20 | 25 | 30 |
| His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu | 35 | 40 | 45 |
| Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val | 50 | 55 | 60 |
| Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp | 65 | 70 | 75 |
| Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp | 85 | 90 | 95 |
| Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala | 100 | 105 | 110 |
| Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln | 115 | 120 | 125 |
| His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val | 130 | 135 | 140 |
| Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys | 145 | 150 | 155 |
| Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro | 165 | 170 | 175 |
| Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys | 180 | 185 | 190 |
| Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu | 195 | 200 | 205 |
| Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys | 210 | 215 | 220 |
| Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val | 225 | 230 | 235 |
| Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser | 245 | 250 | 255 |
| Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly | 260 | 265 | 270 |
| Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile | 275 | 280 | 285 |
| Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu | 290 | 295 | 300 |
| Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp | 305 | 310 | 315 |
| Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser | 325 | 330 | 335 |
| Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly | | | |

| 340 | | | | | 345 | | | | | 350 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | | 370 | | | | | 375 | | | | | 380 | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| | | 385 | | | | | 390 | | | | | 395 | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | | | 435 | | | | 440 | | | | | 445 | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |
| | | 450 | | | | | 455 | | | | | 460 | | | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val |
| | | | | | | | 470 | | | | | 475 | | | 480 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu |
| | | | 530 | | | | 535 | | | | | 540 | | | |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys |
| | | | | | | | 550 | | | | | 555 | | | 560 |
| Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly |
| | | | 595 | | | | 600 | | | | | 605 | | | |
| Leu | Met | Ser | Tyr | Asn | Leu | Leu | Gly | Phe | Leu | Gln | Arg | Ser | Ser | Asn | Phe |
| | | | | | | | 615 | | | | | 620 | | | |
| Gln | Cys | Gln | Lys | Leu | Leu | Trp | Gln | Leu | Asn | Gly | Arg | Leu | Glu | Tyr | Cys |
| | | | | | | | 630 | | | | | 635 | | | 640 |
| Leu | Lys | Asp | Arg | Met | Asn | Phe | Asp | Ile | Pro | Glu | Glu | Ile | Lys | Gln | Leu |
| | | | | 645 | | | | | 650 | | | | | 655 | |
| Gln | Gln | Phe | Gln | Lys | Glu | Asp | Ala | Ala | Leu | Thr | Ile | Tyr | Glu | Met | Leu |
| | | | 660 | | | | | 665 | | | | | 670 | | |
| Gln | Asn | Ile | Phe | Ala | Ile | Phe | Arg | Gln | Asp | Ser | Ser | Ser | Thr | Gly | Trp |

| | | |
|---|-----|-----|
| 675 | 680 | 685 |
| Asn Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile | | |
| 690 | 695 | 700 |
| Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe | | |
| 705 | 710 | 715 |
| Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly | | |
| | 725 | 730 |
| | | 735 |
| Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp | | |
| | 740 | 745 |
| | | 750 |
| Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg | | |
| | 755 | 760 |
| | | 765 |
| Leu Thr Gly Tyr Leu Arg Asn | | |
| 770 | 775 | |

<210> 249
 <211> 774
 <212> PRT
 <213> Homo sapiens

| |
|---|
| <400> 249 |
| Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala |
| 1 5 10 15 |
| Tyr Ser Arg Ser Leu Asp Lys Arg Ala Pro Pro Arg Leu Ile Cys Asp |
| 20 25 30 |
| Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Ser |
| 35 40 45 |
| Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu Ser Ile Thr |
| 50 55 60 |
| Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val |
| 65 70 75 80 |
| Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu |
| 85 90 95 |
| Ala Val Leu Arg Gly Gln Ala Leu Leu Val Ser Ser Ser Gln Pro Trp |
| 100 105 110 |
| Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser |
| 115 120 125 |
| Leu Thr Thr Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu Ala Ile Ser |
| 130 135 140 |
| Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp |
| 145 150 155 160 |
| Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys |
| 165 170 175 |
| Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Asp Ala His |
| 180 185 190 |

Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe
 195 200 205
 Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
 210 215 220
 Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys
 225 230 235 240
 Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
 245 250 255
 Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
 260 265 270
 Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
 275 280 285
 Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
 290 295 300
 Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu
 305 310 315 320
 Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
 325 330 335
 Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
 340 345 350
 Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
 355 360 365
 Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
 370 375 380
 Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe
 385 390 395 400
 Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu
 405 410 415
 Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr
 420 425 430
 Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp
 435 440 445
 Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu
 450 455 460
 Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala
 465 470 475 480
 Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala
 485 490 495
 Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys
 500 505 510
 Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro
 515 520 525

Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr
 530 535 540
 Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala
 545 550 555 560
 Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu
 565 570 575
 Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe
 580 585 590
 Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser
 595 600 605
 Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser
 610 615 620
 Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp
 625 630 635 640
 Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr
 645 650 655
 Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn
 660 665 670
 Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro
 675 680 685
 Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr
 690 695 700
 Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu
 705 710 715 720
 Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val
 725 730 735
 Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp
 740 745 750
 Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser
 755 760 765
 Gln Ala Ala Leu Gly Leu
 770

<210> 250
 <211> 774
 <212> PRT
 <213> Homo sapiens

<400> 250
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30

His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365

Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr
 610 615 620
 Leu Leu Glu Ala Lys Glu Ala Glu Ser Ile Thr Thr Gly Cys Ala Glu
 625 630 635 640
 His Cys Ser Leu Asn Glu Ser Ile Thr Val Pro Asp Thr Lys Val Asn
 645 650 655
 Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val
 660 665 670
 Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala
 675 680 685
 Leu Leu Val Ser Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val
 690 695 700

Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala
 705 710 715 720
 Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala
 725 730 735
 Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg
 740 745 750
 Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu
 755 760 765
 Ala Cys Arg Thr Gly Asp
 770

<210> 251
 <211> 844
 <212> PRT
 <213> Homo sapiens

<400> 251
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys

| 210 | 215 | 220 |
|--|-----|-----|
| Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val 225 230 235 240 | | |
| Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser 245 250 255 | | |
| Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly 260 265 270 | | |
| Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile 275 280 285 | | |
| Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu 290 295 300 | | |
| Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp 305 310 315 320 | | |
| Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser 325 330 335 | | |
| Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly 340 345 350 | | |
| Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val 355 360 365 | | |
| Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys 370 375 380 | | |
| Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu 385 390 395 400 | | |
| Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys 405 410 415 | | |
| Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu 420 425 430 | | |
| Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val 435 440 445 | | |
| Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His 450 455 460 | | |
| Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val 465 470 475 480 | | |
| Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg 485 490 495 | | |
| Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe 500 505 510 | | |
| Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala 515 520 525 | | |
| Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu 530 535 540 | | |
| Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys | | |

| | | | | | | |
|---|---|-----|-----|-----|-----|-----|
| 545 | | 550 | | 555 | | 560 |
| Pro Lys Ala Thr | Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala | | | | | |
| | 565 | | | 570 | | 575 |
| Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe | | | | | | |
| | 580 | | 585 | | 590 | |
| Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly | | | | | | |
| | 595 | | 600 | | 605 | |
| Leu Leu Pro Ala Gln Val Ala Phe Thr Pro Tyr Ala Pro Glu Pro Gly | | | | | | |
| | 610 | | 615 | | 620 | |
| Ser Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys | | | | | | |
| | 625 | | 630 | | 635 | 640 |
| Cys Ser Lys Cys Ser Pro Gly Gln His Ala Lys Val Phe Cys Thr Lys | | | | | | |
| | 645 | | 650 | | 655 | |
| Thr Ser Asp Thr Val Cys Asp Ser Cys Glu Asp Ser Thr Tyr Thr Gln | | | | | | |
| | 660 | | 665 | | 670 | |
| Leu Trp Asn Trp Val Pro Glu Cys Leu Ser Cys Gly Ser Arg Cys Ser | | | | | | |
| | 675 | | 680 | | 685 | |
| Ser Asp Gln Val Glu Thr Gln Ala Cys Thr Arg Glu Gln Asn Arg Ile | | | | | | |
| | 690 | | 695 | | 700 | |
| Cys Thr Cys Arg Pro Gly Trp Tyr Cys Ala Leu Ser Lys Gln Glu Gly | | | | | | |
| | 705 | | 710 | | 715 | 720 |
| Cys Arg Leu Cys Ala Pro Leu Arg Lys Cys Arg Pro Gly Phe Gly Val | | | | | | |
| | 725 | | 730 | | 735 | |
| Ala Arg Pro Gly Thr Glu Thr Ser Asp Val Val Cys Lys Pro Cys Ala | | | | | | |
| | 740 | | 745 | | 750 | |
| Pro Gly Thr Phe Ser Asn Thr Thr Ser Ser Thr Asp Ile Cys Arg Pro | | | | | | |
| | 755 | | 760 | | 765 | |
| His Gln Ile Cys Asn Val Val Ala Ile Pro Gly Asn Ala Ser Met Asp | | | | | | |
| | 770 | | 775 | | 780 | |
| Ala Val Cys Thr Ser Thr Ser Pro Thr Arg Ser Met Ala Pro Gly Ala | | | | | | |
| | 785 | | 790 | | 795 | 800 |
| Val His Leu Pro Gln Pro Val Ser Thr Arg Ser Gln His Thr Gln Pro | | | | | | |
| | 805 | | 810 | | 815 | |
| Thr Pro Glu Pro Ser Thr Ala Pro Ser Thr Ser Phe Leu Leu Pro Met | | | | | | |
| | 820 | | 825 | | 830 | |
| Gly Pro Ser Pro Pro Ala Glu Gly Ser Thr Gly Asp | | | | | | |
| | 835 | | 840 | | | |

<210> 252
 <211> 755
 <212> PRT
 <213> Homo sapiens

 <400> 252

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Trp | Val | Ser | Phe | Ile | Ser | Leu | Leu | Phe | Leu | Phe | Ser | Ser | Ala | 1 | 5 | 10 | 15 |
| Tyr | Ser | Arg | Ser | Leu | Asp | Lys | Arg | Ala | Gly | Arg | His | Val | Arg | Ser | Tyr | 20 | 25 | 30 | |
| Asn | His | Leu | Gln | Gly | Asp | Val | Arg | Trp | Arg | Lys | Leu | Phe | Ser | Phe | Thr | 35 | 40 | 45 | |
| Lys | Tyr | Phe | Leu | Lys | Ile | Glu | Lys | Asn | Gly | Lys | Val | Ser | Gly | Thr | Lys | 50 | 55 | 60 | |
| Lys | Glu | Asn | Cys | Pro | Tyr | Ser | Ile | Leu | Glu | Ile | Thr | Ser | Val | Glu | Ile | 65 | 70 | 75 | 80 |
| Gly | Val | Val | Ala | Val | Lys | Ala | Ile | Asn | Ser | Asn | Tyr | Tyr | Leu | Ala | Met | 85 | 90 | 95 | |
| Asn | Lys | Lys | Gly | Lys | Leu | Tyr | Gly | Ser | Lys | Glu | Phe | Asn | Asn | Asp | Cys | 100 | 105 | 110 | |
| Lys | Leu | Lys | Glu | Arg | Ile | Glu | Glu | Asn | Gly | Tyr | Asn | Thr | Tyr | Ala | Ser | 115 | 120 | 125 | |
| Phe | Asn | Trp | Gln | His | Asn | Gly | Arg | Gln | Met | Tyr | Val | Ala | Leu | Asn | Gly | 130 | 135 | 140 | |
| Lys | Gly | Ala | Pro | Arg | Arg | Gly | Gln | Lys | Thr | Arg | Arg | Lys | Asn | Thr | Ser | 145 | 150 | 155 | 160 |
| Ala | His | Phe | Leu | Pro | Met | Val | Val | His | Ser | Asp | Ala | His | Lys | Ser | Glu | 165 | 170 | 175 | |
| Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | 180 | 185 | 190 | |
| Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | 195 | 200 | 205 | |
| His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | 210 | 215 | 220 | |
| Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | 225 | 230 | 235 | 240 |
| Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | 245 | 250 | 255 | |
| Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | 260 | 265 | 270 | |
| Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | 275 | 280 | 285 | |
| Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | 290 | 295 | 300 | |
| Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | 305 | 310 | 315 | 320 |
| Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | 325 | 330 | 335 | |

Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu
 340 345 350
 Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu
 355 360 365
 Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
 370 375 380
 Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu
 385 390 395 400
 Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys
 405 410 415
 His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys
 420 425 430
 Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys
 435 440 445
 Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu
 450 455 460
 Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val
 465 470 475 480
 Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
 485 490 495
 Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
 500 505 510
 Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu
 515 520 525
 Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe
 530 535 540
 Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
 545 550 555 560
 Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
 565 570 575
 Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
 580 585 590
 Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
 595 600 605
 Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
 610 615 620
 Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
 625 630 635 640
 Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro
 645 650 655
 Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
 660 665 670

Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
 675 680 685
 Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
 690 695 700
 His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
 705 710 715 720
 Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr
 725 730 735
 Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
 740 745 750
 Leu Gly Leu
 755
 <210> 253
 <211> 755
 <212> PRT
 <213> Homo sapiens
 <400> 253
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205

Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540

Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ala Gly Arg His Val Arg Ser Tyr Asn His Leu Gln Gly Asp Val
 610 615 620
 Arg Trp Arg Lys Leu Phe Ser Phe Thr Lys Tyr Phe Leu Lys Ile Glu
 625 630 635 640
 Lys Asn Gly Lys Val Ser Gly Thr Lys Lys Glu Asn Cys Pro Tyr Ser
 645 650 655
 Ile Leu Glu Ile Thr Ser Val Glu Ile Gly Val Val Ala Val Lys Ala
 660 665 670
 Ile Asn Ser Asn Tyr Tyr Leu Ala Met Asn Lys Lys Gly Lys Leu Tyr
 675 680 685
 Gly Ser Lys Glu Phe Asn Asn Asp Cys Lys Leu Lys Glu Arg Ile Glu
 690 695 700
 Glu Asn Gly Tyr Asn Thr Tyr Ala Ser Phe Asn Trp Gln His Asn Gly
 705 710 715 720
 Arg Gln Met Tyr Val Ala Leu Asn Gly Lys Gly Ala Pro Arg Arg Gly
 725 730 735
 Gln Lys Thr Arg Arg Lys Asn Thr Ser Ala His Phe Leu Pro Met Val
 740 745 750
 Val His Ser
 755

<210> 254
 <211> 765
 <212> PRT
 <213> Homo sapiens

<400> 254
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | | | | 70 | | | | | | 75 | | | | 80 |
| Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| | 130 | | | | | | 135 | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | 340 | | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | 355 | | | | | | 360 | | | | | 365 | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |

| 405 | | | | | 410 | | | | | 415 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |
| | | 450 | | | | 455 | | | | | 460 | | | | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val |
| | | | | | 470 | | | | | | 475 | | | | 480 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu |
| | | 530 | | | | 535 | | | | | 540 | | | | |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys |
| | | | | | 550 | | | | | 555 | | | | | 560 |
| Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly |
| | | 595 | | | | | 600 | | | | | 605 | | | |
| Leu | Pro | Ala | Leu | Pro | Ser | Cys | Lys | Glu | Asp | Glu | Tyr | Pro | Val | Gly | Ser |
| | | 610 | | | | 615 | | | | | 620 | | | | |
| Glu | Cys | Cys | Pro | Lys | Cys | Ser | Pro | Gly | Tyr | Arg | Val | Lys | Glu | Ala | Cys |
| | | | | | 630 | | | | | 635 | | | | | 640 |
| Gly | Glu | Leu | Thr | Gly | Thr | Val | Cys | Glu | Pro | Cys | Pro | Pro | Gly | Thr | Tyr |
| | | | | 645 | | | | | 650 | | | | | 655 | |
| Ile | Ala | His | Leu | Asn | Gly | Leu | Ser | Lys | Cys | Leu | Gln | Cys | Gln | Met | Cys |
| | | | 660 | | | | | 665 | | | | | 670 | | |
| Asp | Pro | Ala | Met | Gly | Leu | Arg | Ala | Ser | Arg | Asn | Cys | Ser | Arg | Thr | Glu |
| | | 675 | | | | | 680 | | | | | 685 | | | |
| Asn | Ala | Val | Cys | Gly | Cys | Ser | Pro | Gly | His | Phe | Cys | Ile | Val | Gln | Asp |
| | | 690 | | | | 695 | | | | | 700 | | | | |
| Gly | Asp | His | Cys | Ala | Ala | Cys | Arg | Ala | Tyr | Ala | Thr | Ser | Ser | Pro | Gly |
| | | | | | 710 | | | | | 715 | | | | | 720 |
| Gln | Arg | Val | Gln | Lys | Gly | Gly | Thr | Glu | Ser | Gln | Asp | Thr | Leu | Cys | Gln |
| | | | | 725 | | | | | 730 | | | | | 735 | |
| Asn | Cys | Pro | Pro | Gly | Thr | Phe | Ser | Pro | Asn | Gly | Thr | Leu | Glu | Glu | Cys |

| | | | | | |
|--|-----|-----|-----|-----|-----|
| | 740 | | 745 | | 750 |
| Gln His Gln Thr Lys Cys Ser Trp Leu Val Thr Lys Ala | | | | | |
| 755 | | 760 | | 765 | |
| <p><210> 255 <211> 774 <212> PRT <213> Homo sapiens</p> | | | | | |
| <p><400> 255</p> | | | | | |
| Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala | | | | | |
| 1 | 5 | 10 | | 15 | |
| Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala | | | | | |
| | 20 | 25 | | 30 | |
| His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu | | | | | |
| | 35 | 40 | | 45 | |
| Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val | | | | | |
| | 50 | 55 | | 60 | |
| Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp | | | | | |
| | 65 | 70 | | 75 | 80 |
| Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp | | | | | |
| | 85 | 90 | | 95 | |
| Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala | | | | | |
| | 100 | 105 | | 110 | |
| Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln | | | | | |
| | 115 | 120 | | 125 | |
| His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val | | | | | |
| | 130 | 135 | | 140 | |
| Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys | | | | | |
| | 145 | 150 | | 155 | 160 |
| Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro | | | | | |
| | 165 | 170 | | 175 | |
| Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys | | | | | |
| | 180 | 185 | | 190 | |
| Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu | | | | | |
| | 195 | 200 | | 205 | |
| Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys | | | | | |
| | 210 | 215 | | 220 | |
| Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val | | | | | |
| | 225 | 230 | | 235 | 240 |
| Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser | | | | | |
| | 245 | 250 | | 255 | |
| Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly | | | | | |
| | 260 | 265 | | 270 | |

Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605

Leu Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr
 610 615 620
 Leu Leu Glu Ala Lys Glu Ala Glu Ala Ile Thr Thr Gly Cys Ala Glu
 625 630 635 640
 His Cys Ser Leu Asn Glu Ala Ile Thr Val Pro Asp Thr Lys Val Asn
 645 650 655
 Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val
 660 665 670
 Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala
 675 680 685
 Leu Leu Val Ala Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val
 690 695 700
 Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala
 705 710 715 720
 Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala
 725 730 735
 Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg
 740 745 750
 Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu
 755 760 765
 Ala Cys Arg Thr Gly Asp
 770

<210> 256
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 <212> PRT
 <213> Homo sapiens

<400> 256
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | 115 | 120 | 125 |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | 130 | 135 | 140 |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | 145 | 150 | 155 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | 165 | 170 | 175 |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | 180 | 185 | 190 |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | 195 | 200 | 205 |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | 210 | 215 | 220 |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | 225 | 230 | 235 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | 245 | 250 | 255 |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | 260 | 265 | 270 |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | 275 | 280 | 285 |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | 290 | 295 | 300 |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | 305 | 310 | 315 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | 325 | 330 | 335 |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | 340 | 345 | 350 |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | 355 | 360 | 365 |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | 370 | 375 | 380 |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | 385 | 390 | 395 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | 405 | 410 | 415 |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | 420 | 425 | 430 |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | 435 | 440 | 445 |

Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr
 610 615 620
 Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu
 625 630 635 640
 His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn
 645 650 655
 Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val
 660 665 670
 Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala
 675 680 685
 Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val
 690 695 700
 Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala
 705 710 715 720
 Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala
 725 730 735
 Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg
 740 745 750
 Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu
 755 760 765
 Ala Cys Arg Thr Gly Asp
 770

<210> 257
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 <212> PRT
 <213> Homo sapiens

<400> 257
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Ser Leu Asp Lys Arg Met Pro Tyr Gly Ala Asn Met Glu
 20 25 30
 Asp Ser Val Cys Cys Arg Asp Tyr Val Arg Tyr Arg Leu Pro Leu Arg
 35 40 45
 Val Val Lys His Phe Tyr Trp Thr Ser Asp Ser Cys Pro Arg Pro Gly
 50 55 60
 Val Val Leu Leu Thr Phe Arg Asp Lys Glu Ile Cys Ala Asp Pro Arg
 65 70 75 80
 Val Pro Trp Val Lys Met Ile Leu Asn Lys Leu Ser Gln Asp Ala His
 85 90 95
 Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe
 100 105 110
 Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
 115 120 125
 Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys
 130 135 140
 Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
 145 150 155 160
 Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
 165 170 175
 Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
 180 185 190
 Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
 195 200 205
 Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu
 210 215 220
 Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
 225 230 235 240
 Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
 245 250 255
 Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
 260 265 270
 Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
 275 280 285
 Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe

| 290 | 295 | 300 |
|-------------------------|-------------------------|-------------------------|
| Lys Ala Trp Ala Val | Ala Arg Leu Ser Gln | Arg Phe Pro Lys Ala Glu |
| 305 | 310 | 315 320 |
| Phe Ala Glu Val Ser | Lys Leu Val Thr Asp | Leu Thr Lys Val His Thr |
| | 325 | 330 335 |
| Glu Cys Cys His Gly Asp | Leu Leu Glu Cys Ala Asp | Asp Arg Ala Asp |
| | 340 | 345 350 |
| Leu Ala Lys Tyr Ile Cys | Glu Asn Gln Asp Ser Ile | Ser Ser Lys Leu |
| | 355 | 360 365 |
| Lys Glu Cys Cys Glu Lys | Pro Leu Leu Glu Lys Ser | His Cys Ile Ala |
| | 370 | 375 380 |
| Glu Val Glu Asn Asp Glu | Met Pro Ala Asp Leu Pro | Ser Leu Ala Ala |
| | 385 | 390 395 400 |
| Asp Phe Val Glu Ser Lys | Asp Val Cys Lys Asn Tyr | Ala Glu Ala Lys |
| | 405 | 410 415 |
| Asp Val Phe Leu Gly Met | Phe Leu Tyr Glu Tyr Ala | Arg Arg His Pro |
| | 420 | 425 430 |
| Asp Tyr Ser Val Val Leu | Leu Leu Arg Leu Ala Lys | Thr Tyr Glu Thr |
| | 435 | 440 445 |
| Thr Leu Glu Lys Cys Cys | Ala Ala Ala Asp Pro His | Glu Cys Tyr Ala |
| | 450 | 455 460 |
| Lys Val Phe Asp Glu Phe | Lys Pro Leu Val Glu Glu | Pro Gln Asn Leu |
| | 465 | 470 475 480 |
| Ile Lys Gln Asn Cys Glu | Leu Phe Glu Gln Leu Gly | Glu Tyr Lys Phe |
| | 485 | 490 495 |
| Gln Asn Ala Leu Leu Val | Arg Tyr Thr Lys Lys Val | Pro Gln Val Ser |
| | 500 | 505 510 |
| Thr Pro Thr Leu Val Glu | Val Ser Arg Asn Leu Gly | Lys Val Gly Ser |
| | 515 | 520 525 |
| Lys Cys Cys Lys His Pro | Glu Ala Lys Arg Met Pro | Cys Ala Glu Asp |
| | 530 | 535 540 |
| Tyr Leu Ser Val Val Leu | Asn Gln Leu Cys Val Leu | His Glu Lys Thr |
| | 545 | 550 555 560 |
| Pro Val Ser Asp Arg Val | Thr Lys Cys Cys Thr Glu | Ser Leu Val Asn |
| | 565 | 570 575 |
| Arg Arg Pro Cys Phe Ser | Ala Leu Glu Val Asp Glu | Thr Tyr Val Pro |
| | 580 | 585 590 |
| Lys Glu Phe Asn Ala Glu | Thr Phe Thr Phe His Ala | Asp Ile Cys Thr |
| | 595 | 600 605 |
| Leu Ser Glu Lys Glu Arg | Gln Ile Lys Lys Gln Thr | Ala Leu Val Glu |
| | 610 | 615 620 |
| Leu Val Lys His Lys Pro | Lys Ala Thr Lys Glu Gln | Leu Lys Ala Val |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Tyr | Gly | Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | |
| | | | | 245 | | | | | 250 | | | | | | 255 | |
| Glu | Cys | Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Val | Arg | Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| Glu | Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Tyr | Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Ala | Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Pro | Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | |
| | | | 340 | | | | | 345 | | | | | | 350 | | |
| Gln | Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | |
| | 355 | | | | | | 360 | | | | | 365 | | | | |
| Lys | Ala | Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Phe | Ala | Glu | Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| Glu | Cys | Cys | His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | |
| | | | | 405 | | | | | 410 | | | | | 415 | | |
| Leu | Ala | Lys | Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | |
| | | | 420 | | | | | 425 | | | | | | 430 | | |
| Lys | Glu | Cys | Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | |
| | 435 | | | | | | 440 | | | | | 445 | | | | |
| Glu | Val | Glu | Asn | Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | |
| | 450 | | | | | 455 | | | | | 460 | | | | | |
| Asp | Phe | Val | Glu | Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | |
| Asp | Val | Phe | Leu | Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | |
| | | | | 485 | | | | | 490 | | | | | 495 | | |
| Asp | Tyr | Ser | Val | Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | |
| | | | 500 | | | | | 505 | | | | | | 510 | | |
| Thr | Leu | Glu | Lys | Cys | Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | |
| | 515 | | | | | | 520 | | | | | 525 | | | | |
| Lys | Val | Phe | Asp | Glu | Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | |
| | 530 | | | | | 535 | | | | | | 540 | | | | |
| Ile | Lys | Gln | Asn | Cys | Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | |
| Gln | Asn | Ala | Leu | Leu | Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | |
| | | | | 565 | | | | | 570 | | | | | 575 | | |

Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser
 580 585 590
 Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp
 595 600 605
 Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr
 610 615 620
 Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn
 625 630 635 640
 Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro
 645 650 655
 Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr
 660 665 670
 Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu
 675 680 685
 Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val
 690 695 700
 Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp
 705 710 715 720
 Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser
 725 730 735
 Gln Ala Ala Leu Gly Leu
 740

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 <212> PRT
 <213> Homo sapiens

<400> 259
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln

| 115 | | | | | 120 | | | | | 125 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| 130 | | | | | 135 | | | | | 140 | | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| 165 | | | | | 170 | | | | | 175 | | | | | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| 180 | | | | | 185 | | | | | 190 | | | | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| 195 | | | | | 200 | | | | | 205 | | | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| 210 | | | | | 215 | | | | | 220 | | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| 245 | | | | | 250 | | | | | 255 | | | | | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| 260 | | | | | 265 | | | | | 270 | | | | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| 275 | | | | | 280 | | | | | 285 | | | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| 290 | | | | | 295 | | | | | 300 | | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| 325 | | | | | 330 | | | | | 335 | | | | | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| 340 | | | | | 345 | | | | | 350 | | | | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| 355 | | | | | 360 | | | | | 365 | | | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| 370 | | | | | 375 | | | | | 380 | | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| 405 | | | | | 410 | | | | | 415 | | | | | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| 420 | | | | | 425 | | | | | 430 | | | | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| 435 | | | | | 440 | | | | | 445 | | | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |

| 450 | 455 | 460 |
|---|---|---------|
| Pro Glu Ala Lys Arg Met | Pro Cys Ala Glu Asp Tyr Leu Ser Val Val | |
| 465 | 470 | 475 480 |
| Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg | | |
| | 485 490 | 495 |
| Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe | | |
| | 500 505 | 510 |
| Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala | | |
| | 515 520 | 525 |
| Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu | | |
| | 530 535 | 540 |
| Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys | | |
| | 545 550 | 555 560 |
| Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala | | |
| | 565 570 | 575 |
| Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe | | |
| | 580 585 | 590 |
| Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly | | |
| | 595 600 | 605 |
| Leu Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu | | |
| | 610 615 | 620 |
| His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr | | |
| | 625 630 | 635 640 |
| Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro | | |
| | 645 650 | 655 |
| Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu | | |
| | 660 665 | 670 |
| Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His | | |
| | 675 680 | 685 |
| Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu | | |
| | 690 695 | 700 |
| Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr | | |
| | 705 710 | 715 720 |
| Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser | | |
| | 725 730 | 735 |
| Ile Ile Ser Thr Leu Thr | | |
| | 740 | |

<210> 260
 <211> 848
 <212> PRT
 <213> Homo sapiens

<400> 260

Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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Tyr Ser Arg Ser Leu Asp Gln Val Gln Leu Gln Gln Ser Gly Ala Glu
20 25 30
Val Lys Lys Pro Gly Ser Ser Val Arg Val Ser Cys Lys Ala Ser Gly
35 40 45
Gly Thr Phe Asn Asn Asn Ala Ile Asn Trp Val Arg Gln Ala Pro Gly
50 55 60
Gln Gly Leu Glu Trp Met Gly Gly Ile Ile Pro Met Phe Gly Thr Ala
65 70 75 80
Lys Tyr Ser Gln Asn Phe Gln Gly Arg Val Ala Ile Thr Ala Asp Glu
85 90 95
Ser Thr Gly Thr Ala Ser Met Glu Leu Ser Ser Leu Arg Ser Glu Asp
100 105 110
Thr Ala Val Tyr Tyr Cys Ala Arg Ser Arg Asp Leu Leu Leu Phe Pro
115 120 125
His His Ala Leu Ser Pro Trp Gly Arg Gly Thr Met Val Thr Val Ser
130 135 140
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
145 150 155 160
Ala Phe Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu
165 170 175
Gly Gln Thr Val Arg Val Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr
180 185 190
Tyr Ala Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
195 200 205
Ile Tyr Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser
210 215 220
Gly Ser Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln
225 230 235 240
Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Arg Asp Ser Ser Gly
245 250 255
Asn His Trp Val Phe Gly Gly Gly Thr Glu Leu Thr Val Leu Gly His
260 265 270
Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile
275 280 285
Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys
290 295 300
Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu
305 310 315 320
Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys
325 330 335

Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp
 340 345 350
 Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His
 355 360 365
 Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp
 370 375 380
 Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys
 385 390 395 400
 Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu
 405 410 415
 Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys
 420 425 430
 Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu
 435 440 445
 Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala
 450 455 460
 Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala
 465 470 475 480
 Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys
 485 490 495
 Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly Asp
 500 505 510
 Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys
 515 520 525
 Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys
 530 535 540
 Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu
 545 550 555 560
 Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys
 565 570 575
 Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met
 580 585 590
 Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu
 595 600 605
 Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys
 610 615 620
 Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe
 625 630 635 640
 Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu
 645 650 655
 Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val
 660 665 670

Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu
 675 680
 Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro
 690 695 700
 Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu
 705 710 715 720
 Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg Val
 725 730 735
 Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser
 740 745 750
 Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu
 755 760 765
 Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg
 770 775 780
 Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys Pro
 785 790 795 800
 Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala
 805 810 815
 Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala
 820 825 830
 Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
 835 840 845

<210> 261
 <211> 894
 <212> PRT
 <213> Homo sapiens

<400> 261
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln

| 115 | | | | | 120 | | | | | 125 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| 130 | | | | | | 135 | | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| 210 | | | | | 215 | | | | | 220 | | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | 275 | | | | | 280 | | | | | 285 | | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| 290 | | | | | 295 | | | | | 300 | | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | 355 | | | | | 360 | | | | | 365 | | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| 370 | | | | | 375 | | | | | 380 | | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | 425 | | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | 435 | | | | | 440 | | | | | 445 | | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |

| 450 | 455 | 460 |
|---|---|---------|
| Pro Glu Ala Lys Arg Met | Pro Cys Ala Glu Asp Tyr Leu Ser Val Val | |
| 465 | 470 | 475 480 |
| Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg | | |
| | 485 490 | 495 |
| Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe | | |
| | 500 505 | 510 |
| Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala | | |
| | 515 520 | 525 |
| Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu | | |
| | 530 535 | 540 |
| Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys | | |
| | 545 550 | 555 560 |
| Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala | | |
| | 565 570 | 575 |
| Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe | | |
| | 580 585 | 590 |
| Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly | | |
| | 595 600 | 605 |
| Leu Asp Lys Arg Leu Glu Ser Phe Val Lys Leu Phe Ile Pro Lys Arg | | |
| | 610 615 | 620 |
| Arg Lys Ser Val Thr Gly Glu Ile Val Leu Ile Thr Gly Ala Gly His | | |
| | 625 630 | 635 640 |
| Gly Ile Gly Arg Leu Thr Ala Tyr Glu Phe Ala Lys Leu Lys Ser Lys | | |
| | 645 650 | 655 |
| Leu Val Leu Trp Asp Ile Asn Lys His Gly Leu Glu Glu Thr Ala Ala | | |
| | 660 665 | 670 |
| Lys Cys Lys Gly Leu Gly Ala Lys Val His Thr Phe Val Val Asp Cys | | |
| | 675 680 | 685 |
| Ser Asn Arg Glu Asp Ile Tyr Ser Ser Ala Lys Lys Val Lys Ala Glu | | |
| | 690 695 | 700 |
| Ile Gly Asp Val Ser Ile Leu Val Asn Asn Ala Gly Val Val Tyr Thr | | |
| | 705 710 | 715 720 |
| Ser Asp Leu Phe Ala Thr Gln Asp Pro Gln Ile Glu Lys Thr Phe Glu | | |
| | 725 730 | 735 |
| Val Asn Val Leu Ala His Phe Trp Thr Thr Lys Ala Phe Leu Pro Ala | | |
| | 740 745 | 750 |
| Met Thr Lys Asn Asn His Gly His Ile Val Thr Val Ala Ser Ala Ala | | |
| | 755 760 | 765 |
| Gly His Val Ser Val Pro Phe Leu Leu Ala Tyr Cys Ser Ser Lys Phe | | |
| | 770 775 | 780 |
| Ala Ala Val Gly Phe His Lys Thr Leu Thr Asp Glu Leu Ala Ala Leu | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 785 | | 790 | | 795 | | 800 | | | | | | | | | |
| Gln | Ile | Thr | Gly | Val | Lys | Thr | Thr | Cys | Leu | Cys | Pro | Asn | Phe | Val | Asn |
| | | | | 805 | | | | | 810 | | | | | 815 | |
| Thr | Gly | Phe | Ile | Lys | Asn | Pro | Ser | Thr | Ser | Leu | Gly | Pro | Thr | Leu | Glu |
| | | | 820 | | | | | 825 | | | | | 830 | | |
| Pro | Glu | Glu | Val | Val | Asn | Arg | Leu | Met | His | Gly | Ile | Leu | Thr | Glu | Gln |
| | | 835 | | | | | 840 | | | | | 845 | | | |
| Lys | Met | Ile | Phe | Ile | Pro | Ser | Ser | Ile | Ala | Phe | Leu | Thr | Thr | Leu | Glu |
| | 850 | | | | | 855 | | | | | 860 | | | | |
| Arg | Ile | Leu | Pro | Glu | Arg | Phe | Leu | Ala | Val | Leu | Lys | Arg | Lys | Ile | Ser |
| 865 | | | | | 870 | | | | | 875 | | | | | 880 |
| Val | Lys | Phe | Asp | Ala | Val | Ile | Gly | Tyr | Lys | Met | Lys | Ala | Gln | | |
| | | | 885 | | | | | 890 | | | | | | | |

<210> 262
 <211> 891
 <212> PRT
 <213> Homo sapiens

| |
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| <400> 262 |
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| Tyr Ser Arg Ser Leu Asp Lys Arg Leu Glu Ser Phe Val Lys Leu Phe |
| 20 25 30 |
| Ile Pro Lys Arg Arg Lys Ser Val Thr Gly Glu Ile Val Leu Ile Thr |
| 35 40 45 |
| Gly Ala Gly His Gly Ile Gly Arg Leu Thr Ala Tyr Glu Phe Ala Lys |
| 50 55 60 |
| Leu Lys Ser Lys Leu Val Leu Trp Asp Ile Asn Lys His Gly Leu Glu |
| 65 70 75 80 |
| Glu Thr Ala Ala Lys Cys Lys Gly Leu Gly Ala Lys Val His Thr Phe |
| 85 90 95 |
| Val Val Asp Cys Ser Asn Arg Glu Asp Ile Tyr Ser Ser Ala Lys Lys |
| 100 105 110 |
| Val Lys Ala Glu Ile Gly Asp Val Ser Ile Leu Val Asn Asn Ala Gly |
| 115 120 125 |
| Val Val Tyr Thr Ser Asp Leu Phe Ala Thr Gln Asp Pro Gln Ile Glu |
| 130 135 140 |
| Lys Thr Phe Glu Val Asn Val Leu Ala His Phe Trp Thr Thr Lys Ala |
| 145 150 155 160 |
| Phe Leu Pro Ala Met Thr Lys Asn Asn His Gly His Ile Val Thr Val |
| 165 170 175 |
| Ala Ser Ala Ala Gly His Val Ser Val Pro Phe Leu Leu Ala Tyr Cys |
| 180 185 190 |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Ser | Lys | Phe | Ala | Ala | Val | Gly | Phe | His | Lys | Thr | Leu | Thr | Asp | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Ala | Ala | Leu | Gln | Ile | Thr | Gly | Val | Lys | Thr | Thr | Cys | Leu | Cys | Pro |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Asn | Phe | Val | Asn | Thr | Gly | Phe | Ile | Lys | Asn | Pro | Ser | Thr | Ser | Leu | Gly |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Pro | Thr | Leu | Glu | Pro | Glu | Glu | Val | Val | Asn | Arg | Leu | Met | His | Gly | Ile |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Leu | Thr | Glu | Gln | Lys | Met | Ile | Phe | Ile | Pro | Ser | Ser | Ile | Ala | Phe | Leu |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Thr | Thr | Leu | Glu | Arg | Ile | Leu | Pro | Glu | Arg | Phe | Leu | Ala | Val | Leu | Lys |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Arg | Lys | Ile | Ser | Val | Lys | Phe | Asp | Ala | Val | Ile | Gly | Tyr | Lys | Met | Lys |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ala | Gln | Asp | Ala | His | Lys | Ser | Glu | Val | Ala | His | Arg | Phe | Lys | Asp | Leu |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | Val | Lys | Leu | Val | Asn | Glu | Val |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala |
| | | 450 | | | | 455 | | | | | 460 | | | | |
| Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg |
| | | 515 | | | | | 520 | | | | | 525 | | | |

Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu
530 535 540
Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala
545 550 555 560
Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser
565 570 575
Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys
580 585 590
Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu
595 600 605
Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn
610 615 620
Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr
625 630 635 640
Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala
645 650 655
Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro
660 665 670
His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu
675 680 685
Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu
690 695 700
Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys
705 710 715 720
Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu
725 730 735
Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met
740 745 750
Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val
755 760 765
Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr
770 775 780
Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp
785 790 795 800
Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His
805 810 815
Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln
820 825 830
Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu
835 840 845
Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys
850 855 860

Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys
 865 870 875 880

Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
 885 890

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 <212> PRT
 <213> Homo sapiens

<400> 263
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Tyr Ser Arg Ser Leu Asp Lys Arg Cys Gly Asn Leu Ser Thr Cys Met
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Leu Gly Thr Tyr Thr Gln Asp Phe Asn Lys Phe His Thr Phe Pro Gln
 35 40 45

Thr Ala Ile Gly Val Gly Ala Pro Gly Asp Ala His Lys Ser Glu Val
 50 55 60

Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val
 65 70 75 80

Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His
 85 90 95

Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala
 100 105 110

Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly
 115 120 125

Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met
 130 135 140

Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu
 145 150 155 160

Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu
 165 170 175

Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu
 180 185 190

Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala
 195 200 205

Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu
 210 215 220

Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp
 225 230 235 240

Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys
 245 250 255

Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala
 260 265 270
 Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val
 275 280 285
 Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His
 290 295 300
 Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr
 305 310 315 320
 Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys
 325 330 335
 Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn
 340 345 350
 Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu
 355 360 365
 Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu
 370 375 380
 Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val
 385 390 395 400
 Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys
 405 410 415
 Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp
 420 425 430
 Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn
 435 440 445
 Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu
 450 455 460
 Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu
 465 470 475 480
 Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys
 485 490 495
 His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val
 500 505 510
 Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp
 515 520 525
 Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys
 530 535 540
 Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn
 545 550 555 560
 Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys
 565 570 575
 Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His
 580 585 590

Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe
 595 600 605
 Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys
 610 615 620
 Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu
 625 630 635 640
 Gly Leu

<210> 264
 <211> 642
 <212> PRT
 <213> Homo sapiens

<400> 264
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 | | | | 230 | | | | | 235 | | | | | 240 | | |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | |
| | | | | 245 | | | | | 250 | | | | | | | 255 |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | |
| | | | | 260 | | | | | 265 | | | | | | | 270 |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | |
| | | | | 275 | | | | | 280 | | | | | | | 285 |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | |
| | | | | 290 | | | | | 295 | | | | | | | 300 |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | |
| | | | | 305 | | | | | 310 | | | | | | | 315 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | |
| | | | | 325 | | | | | 330 | | | | | | | 335 |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | |
| | | | | 340 | | | | | 345 | | | | | | | 350 |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | |
| | | | | 355 | | | | | 360 | | | | | | | 365 |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | |
| | | | | 370 | | | | | 375 | | | | | | | 380 |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | |
| | | | | 385 | | | | | 390 | | | | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | |
| | | | | 405 | | | | | 410 | | | | | | | 415 |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | |
| | | | | 420 | | | | | 425 | | | | | | | 430 |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | |
| | | | | 435 | | | | | 440 | | | | | | | 445 |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | |
| | | | | 450 | | | | | 455 | | | | | | | 460 |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | |
| | | | | 465 | | | | | 470 | | | | | | | 475 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg | |
| | | | | 485 | | | | | 490 | | | | | | | 495 |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe | |
| | | | | 500 | | | | | 505 | | | | | | | 510 |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala | |
| | | | | 515 | | | | | 520 | | | | | | | 525 |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu | |
| | | | | 530 | | | | | 535 | | | | | | | 540 |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys | |
| | | | | 545 | | | | | 550 | | | | | | | 555 |
| Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala | |
| | | | | 560 | | | | | 565 | | | | | | | 570 |

Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu
 210 215 220
 Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp
 225 230 235 240
 Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys
 245 250 255
 Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala
 260 265 270
 Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val
 275 280 285
 Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His
 290 295 300
 Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr
 305 310 315 320
 Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys
 325 330 335
 Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn
 340 345 350
 Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu
 355 360 365
 Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu
 370 375 380
 Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val
 385 390 395 400
 Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys
 405 410 415
 Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp
 420 425 430
 Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn
 435 440 445
 Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu
 450 455 460
 Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu
 465 470 475 480
 Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys
 485 490 495
 His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val
 500 505 510
 Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp
 515 520 525
 Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys
 530 535 540

Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn
 545 550 555 560
 Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys
 565 570 575
 Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His
 580 585 590
 Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe
 595 600 605
 Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys
 610 615 620
 Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu
 625 630 635 640
 Gly Leu

<210> 266
 <211> 642
 <212> PRT
 <213> Homo sapiens

<400> 266
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | 180 | 185 | 190 |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | 195 | 200 | 205 |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | 210 | 215 | 220 |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | 225 | 230 | 235 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | 245 | 250 | 255 |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | 260 | 265 | 270 |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | 275 | 280 | 285 |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | 290 | 295 | 300 |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | 305 | 310 | 315 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | 325 | 330 | 335 |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | 340 | 345 | 350 |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | 355 | 360 | 365 |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | 370 | 375 | 380 |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | 385 | 390 | 395 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | 405 | 410 | 415 |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | 420 | 425 | 430 |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | 435 | 440 | 445 |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | 450 | 455 | 460 |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | 465 | 470 | 475 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg | 485 | 490 | 495 |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe | 500 | 505 | 510 |

Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Cys Ser Asn Leu Ser Thr Cys Val Leu Gly Lys Leu Ser Gln Glu
 610 615 620
 Leu His Lys Leu Gln Thr Tyr Pro Arg Thr Asn Thr Gly Ser Gly Thr
 625 630 635 640
 Pro Gly

<210> 267
 <211> 643
 <212> PRT
 <213> Homo sapiens

<400> 267
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Ser Val Ser Glu Ile Gln Leu Met
 20 25 30
 His Asn Leu Gly Lys His Leu Asn Ser Met Glu Arg Val Glu Trp Leu
 35 40 45
 Arg Asn Lys Leu Gln Asp Val His Asn Phe Asp Ala His Lys Ser Glu
 50 55 60
 Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu
 65 70 75 80
 Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp
 85 90 95
 His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val
 100 105 110
 Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe
 115 120 125
 Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu
 130 135 140
 Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe

| | | | | | | |
|---|-------------------------|---------------------|---------|-----|--|-----|
| 145 | | 150 | | 155 | | 160 |
| Leu Gln His Lys Asp | Asp Asn Pro Asn Leu | Pro Arg Leu Val Arg | Pro | | | |
| | 165 | | 170 175 | | | |
| Glu Val Asp Val Met Cys Thr Ala Phe His | Asp Asn Glu Glu Thr Phe | | | | | |
| | 180 | 185 | 190 | | | |
| Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His | Pro Tyr Phe Tyr | | | | | |
| | 195 | 200 | 205 | | | |
| Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr | | | | | | |
| | 210 | 215 | 220 | | | |
| Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu | | | | | | |
| | 225 | 230 | 235 240 | | | |
| Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu | | | | | | |
| | 245 | 250 | 255 | | | |
| Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp | | | | | | |
| | 260 | 265 | 270 | | | |
| Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu | | | | | | |
| | 275 | 280 | 285 | | | |
| Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys | | | | | | |
| | 290 | 295 | 300 | | | |
| His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys | | | | | | |
| | 305 | 310 | 315 320 | | | |
| Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys | | | | | | |
| | 325 | 330 | 335 | | | |
| Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu | | | | | | |
| | 340 | 345 | 350 | | | |
| Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val | | | | | | |
| | 355 | 360 | 365 | | | |
| Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe | | | | | | |
| | 370 | 375 | 380 | | | |
| Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser | | | | | | |
| | 385 | 390 | 395 400 | | | |
| Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu | | | | | | |
| | 405 | 410 | 415 | | | |
| Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe | | | | | | |
| | 420 | 425 | 430 | | | |
| Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln | | | | | | |
| | 435 | 440 | 445 | | | |
| Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala | | | | | | |
| | 450 | 455 | 460 | | | |
| Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr | | | | | | |
| | 465 | 470 | 475 480 | | | |
| Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys | | | | | | |

| 485 | | | | | | | | | | 490 | | | | | | | | | | 495 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Lys | His | Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 500 | | | | | 505 | | | | | 510 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Val | Val | Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 515 | | | | | 520 | | | | | 525 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asp | Arg | Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 530 | | | | 535 | | | | | 540 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cys | Phe | Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 545 | | | 550 | | | | | 555 | | | | | 560 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Asn | Ala | Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 565 | | | | | 570 | | | | | | 575 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lys | Glu | Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 580 | | | | 585 | | | | | | 590 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| His | Lys | Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 595 | | | | | 600 | | | | | 605 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phe | Ala | Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 610 | | | | 615 | | | | | 620 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cys | Phe | Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 625 | | | 630 | | | | 635 | | | | | 640 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Leu Gly Leu

<210> 268
 <211> 643
 <212> PRT
 <213> Homo sapiens

<400> 268

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Met | Lys | Trp | Val | Thr | Phe | Ile | Ser | Leu | Leu | Phe | Leu | Phe | Ser | Ser | Ala | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | | | | | | | | | | | | | | | | | | | | | | |
| Tyr | Ser | Arg | Gly | Val | Phe | Arg | Arg | Asp | Ala | His | Lys | Ser | Glu | Val | Ala | | | | | | | | | | | | | | | | | | | | | |
| | | | 20 | | | | 25 | | | | | 30 | | | | | | | | | | | | | | | | | | | | | | | | |
| His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu | | | | | | | | | | | | | | | | | | | | | |
| | | 35 | | | | 40 | | | | | 45 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | Val | | | | | | | | | | | | | | | | | | | | | |
| | | 50 | | | | 55 | | | | | 60 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp | | | | | | | | | | | | | | | | | | | | | |
| | | 65 | | | 70 | | | | 75 | | | | | 80 | | | | | | | | | | | | | | | | | | | | | | |
| Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | | | | | | | | | | | | | | | | | | | | | |
| | | | 85 | | | | | 90 | | | | | | 95 | | | | | | | | | | | | | | | | | | | | | | |
| Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | | | | | | | | | | | | | | | | | | | | | |
| | | 100 | | | | | 105 | | | | | 110 | | | | | | | | | | | | | | | | | | | | | | | | |
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | | | | | | | | | | | | | | | | | | | | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | | | | | | | | | | | | | | | | | | | | |

His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460

Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu
 610 615 620
 Asn Ser Met Glu Arg Val Glu Trp Leu Arg Asn Lys Leu Gln Asp Val
 625 630 635 640
 His Asn Phe

<210> 269
 <211> 619
 <212> PRT
 <213> Homo sapiens

<400> 269
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Ser Leu Asp Lys Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95

Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430

Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
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 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Gln His Trp Ser Tyr Gly Leu Arg Pro Gly
 610 615

<210> 270
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 <212> PRT
 <213> Homo sapiens

<400> 270
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 20 25 30
 Pro Gly Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu
 35 40 45
 Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr
 50 55 60
 Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val
 65 70 75 80
 Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys
 85 90 95
 Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala

| 100 | | | | | 105 | | | | | 110 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | Lys | Leu | Val | Thr | Asp | Leu |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | Asp | Leu | Leu | Glu | Cys | Ala |
| | | 275 | | | | | 280 | | | | | | 285 | | |
| Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | Glu | Met | Pro | Ala | Asp | Leu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | Lys | Asp | Val | Cys | Lys | Asn |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | Met | Phe | Leu | Tyr | Glu | Tyr |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | Leu | Leu | Leu | Arg | Leu | Ala |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | Cys | Ala | Ala | Ala | Asp | Pro |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | Phe | Lys | Pro | Leu | Val | Glu |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | Glu | Leu | Phe | Glu | Gln | Leu |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | Val | Arg | Tyr | Thr | Lys | Lys |

435 440 445
 Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu
 450 455 460
 Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met
 465 470 475 480
 Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val
 485 490 495
 Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr
 500 505 510
 Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp
 515 520 525
 Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His
 530 535 540
 Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln
 545 550 555 560
 Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu
 565 570 575
 Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys
 580 585 590
 Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys
 595 600 605
 Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
 610 615

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 <211> 594
 <212> PRT
 <213> Homo sapiens

<400> 271
 Glu Trp Pro Arg Pro Gln Ile Pro Pro Asp Ala His Lys Ser Glu Val
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 20 25 30
 Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His
 35 40 45
 Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala
 50 55 60
 Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly
 65 70 75 80
 Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met
 85 90 95
 Ala Asp Cys Cys Ala Lys Gln Glu Pro Gly Arg Asn Glu Cys Phe Leu
 100 105 110

192

His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val
 450 455 460
 Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp
 465 470 475 480
 Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys
 485 490 495
 Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn
 500 505 510
 Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys
 515 520 525
 Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His
 530 535 540
 Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe
 545 550 555 560
 Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys
 565 570 575
 Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu
 580 585 590
 Gly Leu

<210> 272
 <211> 618
 <212> PRT
 <213> Homo sapiens

<400> 272
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Gly Arg Asn Glu Cys Phe Leu Gln
 115 120 125

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | 130 | 135 | 140 | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | 145 | 150 | 155 | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | 165 | 170 | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | 180 | 185 | 190 | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | 195 | 200 | 205 | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | 210 | 215 | 220 | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | 225 | 230 | 235 | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | 245 | 250 | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | 260 | 265 | 270 | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | 275 | 280 | 285 | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | 290 | 295 | 300 | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | 305 | 310 | 315 | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | 325 | 330 | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | 340 | 345 | 350 | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | 355 | 360 | 365 | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | 370 | 375 | 380 | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | 385 | 390 | 395 | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | 405 | 410 | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | 420 | 425 | 430 | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Glu | Val | Ser | Thr | Pro | Thr | Leu | Val | 435 | 440 | 445 | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | 450 | 455 | 460 | |

Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Glu Trp Pro Arg Pro Gln Ile Pro Pro
 610 615

<210> 273
 <211> 643
 <212> PRT
 <213> Homo sapiens

<400> 273
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val

| 130 | 135 | 140 |
|--|-----|-----|
| Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys 145 150 155 160 | | |
| Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro 165 170 175 | | |
| Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys 180 185 190 | | |
| Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu 195 200 205 | | |
| Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys 210 215 220 | | |
| Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val 225 230 235 240 | | |
| Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser 245 250 255 | | |
| Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly 260 265 270 | | |
| Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile 275 280 285 | | |
| Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu 290 295 300 | | |
| Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp 305 310 315 320 | | |
| Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser 325 330 335 | | |
| Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly 340 345 350 | | |
| Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val 355 360 365 | | |
| Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys 370 375 380 | | |
| Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu 385 390 395 400 | | |
| Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys 405 410 415 | | |
| Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu 420 425 430 | | |
| Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val 435 440 445 | | |
| Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His 450 455 460 | | |
| Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val | | |

465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu
 610 615 620
 Asn Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val
 625 630 635 640
 His Asn Phe

<210> 274
 <211> 880
 <212> PRT
 <213> Homo sapiens

<400> 274
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110

Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445

Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly
 610 615 620
 Glu Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg
 625 630 635 640
 Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg
 645 650 655
 His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn
 660 665 670
 Val Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr
 675 680 685
 His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly
 690 695 700
 Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala
 705 710 715 720
 Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly
 725 730 735
 Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg
 740 745 750
 Asn Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser
 755 760 765
 His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg
 770 775 780

Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala
785 790 795 800

Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu
805 810 815

Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala
820 825 830

Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln
835 840 845

Asp Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg
850 855 860

Met Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His
865 870 875 880

<210> 275
<211> 885
<212> PRT
<213> Homo sapiens

<400> 275
Met Arg Ala Leu Glu Gly Pro Gly Leu Ser Leu Leu Cys Leu Val Leu
1 5 10 15

Ala Leu Pro Ala Leu Leu Pro Val Pro Ala Val Arg Gly Val Ala Glu
20 25 30

Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
35 40 45

Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
50 55 60

Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
65 70 75 80

Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
85 90 95

Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
100 105 110

Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
115 120 125

His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
130 135 140

Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala
145 150 155 160

Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
165 170 175

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Gly | Leu | Ala | Leu | Asn | Val | Pro | Gly | Ser | Ser | Ser | His | Asp | Thr | Leu | 180 | 185 | 190 |
| Cys | Thr | Ser | Cys | Thr | Gly | Phe | Pro | Leu | Ser | Thr | Arg | Val | Pro | Gly | Ala | 195 | 200 | 205 |
| Glu | Glu | Cys | Glu | Arg | Ala | Val | Ile | Asp | Phe | Val | Ala | Phe | Gln | Asp | Ile | 210 | 215 | 220 |
| Ser | Ile | Lys | Arg | Leu | Gln | Arg | Leu | Leu | Gln | Ala | Leu | Glu | Ala | Pro | Glu | 225 | 230 | 235 |
| Gly | Trp | Gly | Pro | Thr | Pro | Arg | Ala | Gly | Arg | Ala | Ala | Leu | Gln | Leu | Lys | 245 | 250 | 255 |
| Leu | Arg | Arg | Arg | Leu | Thr | Glu | Leu | Leu | Gly | Ala | Gln | Asp | Gly | Ala | Leu | 260 | 265 | 270 |
| Leu | Val | Arg | Leu | Leu | Gln | Ala | Leu | Arg | Val | Ala | Arg | Met | Pro | Gly | Leu | 275 | 280 | 285 |
| Glu | Arg | Ser | Val | Arg | Glu | Arg | Phe | Leu | Pro | Val | His | Asp | Ala | His | Lys | 290 | 295 | 300 |
| Ser | Glu | Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | 305 | 310 | 315 |
| Ala | Leu | Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | 325 | 330 | 335 |
| Glu | Asp | His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | 340 | 345 | 350 |
| Cys | Val | Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | 355 | 360 | 365 |
| Leu | Phe | Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | 370 | 375 | 380 |
| Gly | Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | 385 | 390 | 395 |
| Cys | Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | 405 | 410 | 415 |
| Arg | Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | 420 | 425 | 430 |
| Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | 435 | 440 | 445 |
| Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | 450 | 455 | 460 |
| Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | 465 | 470 | 475 |
| Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | 485 | 490 | 495 |
| Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | 500 | 505 | 510 |

Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe
 515 520 525
 Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu
 530 535 540
 Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu
 545 550 555 560
 Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys
 565 570 575
 Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu
 580 585 590
 Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp
 595 600 605
 Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp
 610 615 620
 Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp
 625 630 635 640
 Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr
 645 650 655
 Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys
 660 665 670
 Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile
 675 680 685
 Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln
 690 695 700
 Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr
 705 710 715 720
 Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys
 725 730 735
 Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr
 740 745 750
 Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro
 755 760 765
 Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg
 770 775 780
 Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys
 785 790 795 800
 Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu
 805 810 815
 Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu
 820 825 830
 Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met
 835 840 845

Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys
850 855 860

Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln
865 870 875 880

Ala Ala Leu Gly Leu
885

<210> 276
<211> 642
<212> PRT
<213> Homo sapiens

<400> 276

Met Lys Val Ser Val Ala Ala Leu Ser Cys Leu Met Leu Val Thr Ala
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Leu Gly Ser Gln Ala Ser Val Ser Glu Ile Gln Leu Met His Asn Leu
20 25 30

Gly Lys His Leu Asn Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys
35 40 45

Leu Gln Asp Val His Asn Phe Thr Ser Asp Ala His Lys Ser Glu Val
50 55 60

Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val
65 70 75 80

Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His
85 90 95

Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala
100 105 110

Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly
115 120 125

Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met
130 135 140

Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu
145 150 155 160

Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu
165 170 175

Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu
180 185 190

Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala
195 200 205

Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu
210 215 220

Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp
225 230 235 240

Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys

| 245 | | | | | | | | | | 250 | | | | | 255 | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | | | | |
| | | | 260 | | | | | 265 | | | | | 270 | | | | | | |
| Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | | | | |
| | | 275 | | | | | 280 | | | | | 285 | | | | | | | |
| Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | | | | |
| | | 290 | | | | 295 | | | | | 300 | | | | | | | | |
| Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | | | | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | | | | |
| Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | | | | |
| | | | | 325 | | | | | 330 | | | | | 335 | | | | | |
| Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | | | | |
| | | | 340 | | | | | 345 | | | | | 350 | | | | | | |
| Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | | | | |
| | | 355 | | | | | 360 | | | | | 365 | | | | | | | |
| Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | | | | |
| | | 370 | | | | 375 | | | | | 380 | | | | | | | | |
| Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | | | | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | | | | |
| Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | | | | |
| | | | | 405 | | | | | 410 | | | | | 415 | | | | | |
| Cys | Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | | | | |
| | | | 420 | | | | | 425 | | | | | 430 | | | | | | |
| Glu | Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | | | | |
| | | 435 | | | | | 440 | | | | | 445 | | | | | | | |
| Cys | Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | | | | |
| | | 450 | | | | 455 | | | | | 460 | | | | | | | | |
| Leu | Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | | | | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | | | | |
| Val | Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | | | | |
| | | | | 485 | | | | | 490 | | | | | 495 | | | | | |
| His | Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | | | | |
| | | | 500 | | | | | 505 | | | | | 510 | | | | | | |
| Val | Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | | | | |
| | | 515 | | | | | 520 | | | | | 525 | | | | | | | |
| Arg | Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | | | | |
| | | 530 | | | | 535 | | | | | 540 | | | | | | | | |
| Phe | Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | | | | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | | | | |
| Ala | Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | | | | |
| | | | | 565 | | | | | 570 | | | | | 575 | | | | | |
| Glu | Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | | | | |

| | | |
|---|-----|-----|
| 580 | 585 | 590 |
| Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe | | |
| 595 | 600 | 605 |
| Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys | | |
| 610 | 615 | 620 |
| Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu | | |
| 625 | 630 | 635 |
| | | 640 |
| Gly Leu | | |

<210> 277
 <211> 642
 <212> PRT
 <213> Homo sapiens

| |
|---|
| <400> 277 |
| Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala |
| 1 5 10 15 |
| Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala |
| 20 25 30 |
| His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu |
| 35 40 45 |
| Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val |
| 50 55 60 |
| Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp |
| 65 70 75 80 |
| Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp |
| 85 90 95 |
| Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala |
| 100 105 110 |
| Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln |
| 115 120 125 |
| His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val |
| 130 135 140 |
| Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys |
| 145 150 155 160 |
| Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro |
| 165 170 175 |
| Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys |
| 180 185 190 |
| Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu |
| 195 200 205 |
| Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys |
| 210 215 220 |

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | 225 | 230 | 235 | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | 245 | 250 | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | 260 | 265 | 270 | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | 275 | 280 | 285 | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | 290 | 295 | 300 | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | 305 | 310 | 315 | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | 325 | 330 | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | 340 | 345 | 350 | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | 355 | 360 | 365 | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | 370 | 375 | 380 | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | 385 | 390 | 395 | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | 405 | 410 | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | 420 | 425 | 430 | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | 435 | 440 | 445 | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | 450 | 455 | 460 | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | 465 | 470 | 475 | 480 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg | 485 | 490 | 495 | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe | 500 | 505 | 510 | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala | 515 | 520 | 525 | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu | 530 | 535 | 540 | |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys | 545 | 550 | 555 | 560 |

Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Asn
 610 615 620
 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His
 625 630 635 640
 Asn Phe

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 <211> 885
 <212> PRT
 <213> Homo sapiens

<400> 278
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 Ala Leu Pro Ala Leu Leu Pro Val Pro Ala Val Arg Gly Val Ala Glu
 20 25 30
 Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
 35 40 45
 Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
 50 55 60
 Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
 65 70 75 80
 Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
 85 90 95
 Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
 100 105 110
 Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
 115 120 125
 His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
 130 135 140
 Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala
 145 150 155 160
 Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
 165 170 175
 Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His Asp Thr Leu
 180 185 190

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Thr | Ser | Cys | Thr | Gly | Phe | Pro | Leu | Ser | Thr | Arg | Val | Pro | Gly | Ala |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Glu | Glu | Cys | Glu | Arg | Ala | Val | Ile | Asp | Phe | Val | Ala | Phe | Gln | Asp | Ile |
| | 210 | | | | | 215 | | | | 220 | | | | | |
| Ser | Ile | Lys | Arg | Leu | Gln | Arg | Leu | Leu | Gln | Ala | Leu | Glu | Ala | Pro | Glu |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Gly | Trp | Gly | Pro | Thr | Pro | Arg | Ala | Gly | Arg | Ala | Ala | Leu | Gln | Leu | Lys |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Leu | Arg | Arg | Arg | Leu | Thr | Glu | Leu | Leu | Gly | Ala | Gln | Asp | Gly | Ala | Leu |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Val | Arg | Leu | Leu | Gln | Ala | Leu | Arg | Val | Ala | Arg | Met | Pro | Gly | Leu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Glu | Arg | Ser | Val | Arg | Glu | Arg | Phe | Leu | Pro | Val | His | Asp | Ala | His | Lys |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ser | Glu | Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Ala | Leu | Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Glu | Asp | His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Cys | Val | Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Leu | Phe | Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Gly | Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Cys | Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Arg | Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ala | Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe |
| | | 515 | | | | | 520 | | | | | 525 | | | |

Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu
 530 535 540
 Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu
 545 550 555 560
 Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys
 565 570 575
 Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu
 580 585 590
 Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp
 595 600 605
 Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp
 610 615 620
 Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp
 625 630 635 640
 Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr
 645 650 655
 Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys
 660 665 670
 Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile
 675 680 685
 Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln
 690 695 700
 Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr
 705 710 715 720
 Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys
 725 730 735
 Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr
 740 745 750
 Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro
 755 760 765
 Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg
 770 775 780
 Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys
 785 790 795 800
 Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu
 805 810 815
 Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu
 820 825 830
 Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met
 835 840 845
 Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys
 850 855 860

Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln
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Ala Ala Leu Gly Leu
 885

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 <212> PRT
 <213> Homo sapiens

<400> 279
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 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly

| 260 | | | | | 265 | | | | | 270 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | 275 | | | | | 280 | | | | | 285 | | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| | 305 | | | | | 310 | | | | | 315 | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | 355 | | | | | 360 | | | | | 365 | | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| | 385 | | | | | 390 | | | | | 395 | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | 425 | | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | 435 | | | | | | 440 | | | | | 445 | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val |
| | 465 | | | | | 470 | | | | | 475 | | | | 480 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala |
| | 515 | | | | | 520 | | | | | | 525 | | | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu |
| | 530 | | | | | 535 | | | | | 540 | | | | |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys |
| | 545 | | | | | 550 | | | | | 555 | | | | 560 |
| Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly |

| 595 | | | | | 600 | | | | | 605 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Val | Ala | Glu | Thr | Pro | Thr | Tyr | Pro | Trp | Arg | Asp | Ala | Glu | Thr | Gly |
| 610 | | | | | | 615 | | | | | 620 | | | | |
| Glu | Arg | Leu | Val | Cys | Ala | Gln | Cys | Pro | Pro | Gly | Thr | Phe | Val | Gln | Arg |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 |
| Pro | Cys | Arg | Arg | Asp | Ser | Pro | Thr | Thr | Cys | Gly | Pro | Cys | Pro | Pro | Arg |
| | | | | 645 | | | | | 650 | | | | | 655 | |
| His | Tyr | Thr | Gln | Phe | Trp | Asn | Tyr | Leu | Glu | Arg | Cys | Arg | Tyr | Cys | Asn |
| | | | 660 | | | | | 665 | | | | | 670 | | |
| Val | Leu | Cys | Gly | Glu | Arg | Glu | Glu | Glu | Ala | Arg | Ala | Cys | His | Ala | Thr |
| | | 675 | | | | | 680 | | | | | 685 | | | |
| His | Asn | Arg | Ala | Cys | Arg | Cys | Arg | Thr | Gly | Phe | Phe | Ala | His | Ala | Gly |
| | 690 | | | | | 695 | | | | | 700 | | | | |
| Phe | Cys | Leu | Glu | His | Ala | Ser | Cys | Pro | Pro | Gly | Ala | Gly | Val | Ile | Ala |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 |
| Pro | Gly | Thr | Pro | Ser | Gln | Asn | Thr | Gln | Cys | Gln | Pro | Cys | Pro | Pro | Gly |
| | | | | 725 | | | | | 730 | | | | | 735 | |
| Thr | Phe | Ser | Ala | Ser | Ser | Ser | Ser | Ser | Glu | Gln | Cys | Gln | Pro | His | Arg |
| | | | 740 | | | | | 745 | | | | | 750 | | |
| Asn | Cys | Thr | Ala | Leu | Gly | Leu | Ala | Leu | Asn | Val | Pro | Gly | Ser | Ser | Ser |
| | | 755 | | | | | 760 | | | | | 765 | | | |
| His | Asp | Thr | Leu | Cys | Thr | Ser | Cys | Thr | Gly | Phe | Pro | Leu | Ser | Thr | Arg |
| | 770 | | | | | 775 | | | | | 780 | | | | |
| Val | Pro | Gly | Ala | Glu | Glu | Cys | Glu | Arg | Ala | Val | Ile | Asp | Phe | Val | Ala |
| 785 | | | | | 790 | | | | | 795 | | | | | 800 |
| Phe | Gln | Asp | Ile | Ser | Ile | Lys | Arg | Leu | Gln | Arg | Leu | Leu | Gln | Ala | Leu |
| | | | | 805 | | | | | 810 | | | | | 815 | |
| Glu | Ala | Pro | Glu | Gly | Trp | Gly | Pro | Thr | Pro | Arg | Ala | Gly | Arg | Ala | Ala |
| | | | 820 | | | | 825 | | | | | | 830 | | |
| Leu | Gln | Leu | Lys | Leu | Arg | Arg | Arg | Leu | Thr | Glu | Leu | Leu | Gly | Ala | Gln |
| | | 835 | | | | | 840 | | | | | 845 | | | |
| Asp | Gly | Ala | Leu | Leu | Val | Arg | Leu | Leu | Gln | Ala | Leu | Arg | Val | Ala | Arg |
| | 850 | | | | | 855 | | | | | 860 | | | | |
| Met | Pro | Gly | Leu | Glu | Arg | Ser | Val | Arg | Glu | Arg | Phe | Leu | Pro | Val | His |
| 865 | | | | | 870 | | | | | 875 | | | | | 880 |

<210> 280
 <211> 640
 <212> PRT
 <213> Homo sapiens

<400> 280

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Val | Ser | Val | Ala | Ala | Leu | Ser | Cys | Leu | Met | Leu | Val | Thr | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Gly | Ser | Gln | Ala | Ser | Val | Ser | Glu | Ile | Gln | Leu | Met | His | Asn | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Lys | His | Leu | Asn | Ser | Met | Glu | Arg | Val | Glu | Trp | Leu | Arg | Lys | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Gln | Asp | Val | His | Asn | Phe | Asp | Ala | His | Lys | Ser | Glu | Val | Ala | His |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu | Ile |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | Val | Lys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | Lys |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | His |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | Asp |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | Lys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | Cys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | Leu |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | Ala |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | Ala |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | Lys |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | Asp |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | Cys |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | Lys |
| | | | | 325 | | | | | 330 | | | | | 335 | |

Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu
 340 345 350
 Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys
 355 360 365
 Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met
 370 375 380
 Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu
 385 390 395 400
 Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys
 405 410 415
 Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe
 420 425 430
 Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu
 435 440 445
 Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val
 450 455 460
 Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu
 465 470 475 480
 Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro
 485 490 495
 Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu
 500 505 510
 Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg Val
 515 520 525
 Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser
 530 535 540
 Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu
 545 550 555 560
 Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg
 565 570 575
 Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys Pro
 580 585 590
 Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala
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 Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala
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 Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
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<400> 281
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
 100 105 110
 Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
 115 120 125
 His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
 130 135 140
 Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
 145 150 155 160
 Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
 165 170 175
 Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
 180 185 190
 Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
 195 200 205
 Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
 210 215 220
 Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
 225 230 235 240
 Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
 245 250 255
 Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | |
| | | 355 | | | | | 360 | | | | | 365 | | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | |
| | | | 405 | | | | | | 410 | | | | | 415 | | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | |
| | | | 420 | | | | | 425 | | | | | 430 | | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | |
| | | 435 | | | | | 440 | | | | | 445 | | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | |
| | 450 | | | | | 455 | | | | | 460 | | | | | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg | |
| | | | 485 | | | | | | 490 | | | | | 495 | | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe | |
| | | | 500 | | | | | 505 | | | | | 510 | | | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala | |
| | | 515 | | | | | 520 | | | | | 525 | | | | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu | |
| | 530 | | | | | 535 | | | | | 540 | | | | | |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | |
| Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala | |
| | | | | 565 | | | | | 570 | | | | | 575 | | |
| Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe | |
| | | | 580 | | | | | 585 | | | | | 590 | | | |
| Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly | |
| | | 595 | | | | | 600 | | | | | 605 | | | | |
| Leu | Ala | Gly | Arg | His | Val | Arg | Ser | Tyr | Asn | His | Leu | Gln | Gly | Asp | Val | |
| | 610 | | | | | 615 | | | | | 620 | | | | | |
| Arg | Trp | Arg | Lys | Leu | Phe | Ser | Phe | Thr | Lys | Tyr | Phe | Leu | Lys | Ile | Glu | |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 | |

Lys Asn Gly Lys Val Ser Gly Thr Lys Lys Glu Asn Cys Pro Tyr Ser
 645 650 655
 Ile Leu Glu Ile Thr Ser Val Glu Ile Gly Val Val Ala Val Lys Ala
 660 665 670
 Ile Asn Ser Asn Tyr Tyr Leu Ala Met Asn Lys Lys Gly Lys Leu Tyr
 675 680 685
 Gly Ser Lys Glu Phe Asn Asn Asp Cys Lys Leu Lys Glu Arg Ile Glu
 690 695 700
 Glu Asn Gly Tyr Asn Thr Tyr Ala Ser Phe Asn Trp Gln His Asn Gly
 705 710 715 720
 Arg Gln Met Tyr Val Ala Leu Asn Gly Lys Gly Ala Pro Arg Arg Gly
 725 730 735
 Gln Lys Thr Arg Arg Lys Asn Thr Ser Ala His Phe Leu Pro Met Val
 740 745 750
 Val His Ser
 755

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 Asn His Leu Gln Gly Asp Val Arg Trp Arg Lys Leu Phe Ser Phe Thr
 35 40 45
 Lys Tyr Phe Leu Lys Ile Glu Lys Asn Gly Lys Val Ser Gly Thr Lys
 50 55 60
 Lys Glu Asn Cys Pro Tyr Ser Ile Leu Glu Ile Thr Ser Val Glu Ile
 65 70 75 80
 Gly Val Val Ala Val Lys Ala Ile Asn Ser Asn Tyr Tyr Leu Ala Met
 85 90 95
 Asn Lys Lys Gly Lys Leu Tyr Gly Ser Lys Glu Phe Asn Asn Asp Cys
 100 105 110
 Lys Leu Lys Glu Arg Ile Glu Glu Asn Gly Tyr Asn Thr Tyr Ala Ser
 115 120 125
 Phe Asn Trp Gln His Asn Gly Arg Gln Met Tyr Val Ala Leu Asn Gly
 130 135 140
 Lys Gly Ala Pro Arg Arg Gly Gln Lys Thr Arg Arg Lys Asn Thr Ser
 145 150 155 160
 Ala His Phe Leu Pro Met Val Val His Ser Asp Ala His Lys Ser Glu

| 500 | | | | | 505 | | | | | 510 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Lys | Cys | Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe |
| | 530 | | | | | 535 | | | | | 540 | | | | |
| Asp | Glu | Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Asn | Cys | Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Leu | Leu | Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Leu | Val | Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys |
| | 595 | | | | | | 600 | | | | | 605 | | | |
| Lys | His | Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser |
| | 610 | | | | | 615 | | | | | 620 | | | | |
| Val | Val | Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser |
| 625 | | | | 630 | | | | | | 635 | | | | | 640 |
| Asp | Arg | Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro |
| | | | | 645 | | | | | 650 | | | | | 655 | |
| Cys | Phe | Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe |
| | | | 660 | | | | | 665 | | | | | 670 | | |
| Asn | Ala | Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu |
| | | 675 | | | | | 680 | | | | | 685 | | | |
| Lys | Glu | Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys |
| | 690 | | | | | 695 | | | | | 700 | | | | |
| His | Lys | Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 |
| Phe | Ala | Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr |
| | | | | 725 | | | | | 730 | | | | | 735 | |
| Cys | Phe | Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala |
| | | | 740 | | | | | 745 | | | | | 750 | | |
| Leu | Gly | Leu | | | | | | | | | | | | | |
| | | 755 | | | | | | | | | | | | | |

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 <212> PRT
 <213> Homo sapiens

<400> 283
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 20 25 30

Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu
 35 40 45
 Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu
 50 55 60
 Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg
 65 70 75 80
 Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu
 85 90 95
 Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser
 100 105 110
 Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly
 115 120 125
 Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu
 130 135 140
 Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile
 145 150 155 160
 Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu
 165 170 175
 Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp
 180 185 190
 Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu
 195 200 205
 Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln
 210 215 220
 Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe
 225 230 235 240
 Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser
 245 250 255
 Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg
 260 265 270
 Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu
 275 280 285
 Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro
 290 295 300
 Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp
 305 310 315 320
 Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg
 325 330 335
 His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr
 340 345 350
 Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys
 355 360 365

Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser
 370 375 380
 Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg
 385 390 395 400
 Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys
 405 410 415
 Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val
 420 425 430
 His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg
 435 440 445
 Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser
 450 455 460
 Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys
 465 470 475 480
 Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu
 485 490 495
 Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu
 500 505 510
 Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg
 515 520 525
 His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr
 530 535 540
 Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys
 545 550 555 560
 Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln
 565 570 575
 Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr
 580 585 590
 Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln
 595 600 605
 Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val
 610 615 620
 Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala
 625 630 635 640
 Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu
 645 650 655
 Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu
 660 665 670
 Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr
 675 680 685
 Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile
 690 695 700

Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu
 705 710 715 720
 Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys
 725 730 735
 Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala
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 Ala Ser Gln Ala Ala Leu Gly Leu
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 <212> PRT
 <213> Homo sapiens

<400> 284
 Met Lys Val Ser Val Ala Ala Leu Ser Cys Leu Met Leu Val Thr Ala
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 Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr
 35 40 45
 Gly Cys Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp
 50 55 60
 Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln
 65 70 75 80
 Ala Val Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu
 85 90 95
 Arg Gly Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu
 100 105 110
 Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr
 115 120 125
 Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp
 130 135 140
 Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg
 145 150 155 160
 Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu
 165 170 175
 Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Asp Ala His Lys Ser Glu
 180 185 190
 Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu
 195 200 205

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | | |
| 210 | | | | | | 215 | | | | | 220 | | | | | | |
| His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | | |
| Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | | |
| | | | | 245 | | | | | 250 | | | | | 255 | | | |
| Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | | |
| | | | 260 | | | | | 265 | | | | | 270 | | | | |
| Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | | |
| | | 275 | | | | | 280 | | | | | 285 | | | | | |
| Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | | |
| | 290 | | | | | 295 | | | | | 300 | | | | | | |
| Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | | |
| Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | | |
| | | | | 325 | | | | | 330 | | | | | 335 | | | |
| Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | | |
| | | | 340 | | | | | 345 | | | | | 350 | | | | |
| Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | | |
| | | 355 | | | | | 360 | | | | | 365 | | | | | |
| Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | | |
| | 370 | | | | | 375 | | | | | 380 | | | | | | |
| Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | | |
| Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | | |
| | | | 405 | | | | | | 410 | | | | | 415 | | | |
| Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | | |
| | | | 420 | | | | | 425 | | | | | 430 | | | | |
| His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | | |
| | | 435 | | | | | 440 | | | | | 445 | | | | | |
| Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | | |
| | 450 | | | | | 455 | | | | | 460 | | | | | | |
| Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | | |
| Asn | Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | | |
| | | | | 485 | | | | | 490 | | | | | 495 | | | |
| Glu | Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | | |
| | | | 500 | | | | | 505 | | | | | 510 | | | | |
| Leu | Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | | |
| | | 515 | | | | | 520 | | | | | 525 | | | | | |
| Val | Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | | |
| | 530 | | | | | 535 | | | | | 540 | | | | | | |

Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe
 545 550 555
 Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
 565 570 575
 Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
 580 585 590
 Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
 595 600 605
 Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
 610 615 620
 Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
 625 630 635 640
 Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
 645 650 655
 Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro
 660 665 670
 Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
 675 680 685
 Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
 690 695 700
 Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
 705 710 715 720
 His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
 725 730 735
 Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr
 740 745 750
 Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
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 Leu Gly Leu
 770

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 <212> PRT
 <213> Homo sapiens

<400> 285
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val

| 50 | | | | | 55 | | | | | 60 | | | | | |
|--------|-----|-----|-----|--------|--------|-----|-----|-----|--------|--------|-----|-----|-----|--------|--------|
| Lys 65 | Leu | Val | Asn | Glu | Val 70 | Thr | Glu | Phe | Ala | Lys 75 | Thr | Cys | Val | Ala | Asp 80 |
| Glu | Ser | Ala | Glu | Asn 85 | Cys | Asp | Lys | Ser | Leu 90 | His | Thr | Leu | Phe | Gly 95 | Asp |
| Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| | 130 | | | | | | 135 | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | | | 340 | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | 355 | | | | | | 360 | | | | | 365 | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |

| | | | | | | |
|---|---|-----|-----|-----|-----|-----|
| 385 | | 390 | | 395 | | 400 |
| Phe Lys Pro Leu Val | Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys | | | | | |
| | 405 | | 410 | | 415 | |
| Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu | | | | | | |
| | 420 | | 425 | | 430 | |
| Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val | | | | | | |
| | 435 | | 440 | | 445 | |
| Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His | | | | | | |
| | 450 | | 455 | | 460 | |
| Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val | | | | | | |
| | 465 | | 470 | | 475 | 480 |
| Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg | | | | | | |
| | 485 | | 490 | | 495 | |
| Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe | | | | | | |
| | 500 | | 505 | | 510 | |
| Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala | | | | | | |
| | 515 | | 520 | | 525 | |
| Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu | | | | | | |
| | 530 | | 535 | | 540 | |
| Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys | | | | | | |
| | 545 | | 550 | | 555 | 560 |
| Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala | | | | | | |
| | 565 | | 570 | | 575 | |
| Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe | | | | | | |
| | 580 | | 585 | | 590 | |
| Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly | | | | | | |
| | 595 | | 600 | | 605 | |
| Leu Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu | | | | | | |
| | 610 | | 615 | | 620 | |
| Asn Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val | | | | | | |
| | 625 | | 630 | | 635 | 640 |
| His Asn Phe | | | | | | |

<210> 286
 <211> 683
 <212> PRT
 <213> Homo sapiens

<400> 286
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Thr Lys Thr Glu Ser Ser Ser Arg
 20 25 30

Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys
 370 375 380
 Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu
 385 390 395 400
 Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn
 405 410 415
 Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr
 420 425 430
 Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala
 435 440 445
 Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro
 450 455 460
 His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu
 465 470 475 480
 Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu
 485 490 495
 Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys
 500 505 510
 Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu
 515 520 525
 Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met
 530 535 540
 Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val
 545 550 555 560
 Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr
 565 570 575
 Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp
 580 585 590
 Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His
 595 600 605
 Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln
 610 615 620
 Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu
 625 630 635 640
 Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys
 645 650 655
 Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys
 660 665 670
 Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
 675 680

<210> 287
 <211> 683
 <212> PRT
 <213> Homo sapiens

<400> 287
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Thr Lys Thr Glu Ser Ser Ser Arg
 20 25 30
 Gly Pro Tyr His Pro Ser Glu Cys Cys Phe Thr Tyr Thr Thr Tyr Lys
 35 40 45
 Ile Pro Arg Gln Arg Ile Met Asp Tyr Tyr Glu Thr Asn Ser Gln Cys
 50 55 60
 Ser Lys Pro Gly Ile Val Phe Ile Thr Lys Arg Gly His Ser Val Cys
 65 70 75 80
 Thr Asn Pro Ser Asp Lys Trp Val Gln Asp Tyr Ile Lys Asp Met Lys
 85 90 95
 Glu Asn Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu
 100 105 110
 Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr
 115 120 125
 Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val
 130 135 140
 Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys
 145 150 155 160
 Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala
 165 170 175
 Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln
 180 185 190
 Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro
 195 200 205
 Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala
 210 215 220
 Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile
 225 230 235 240
 Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala
 245 250 255
 Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys
 260 265 270
 Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys
 275 280 285
 Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe
 290 295 300

Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg
 305 310 315 320
 Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu
 325 330 335
 Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala
 340 345 350
 Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser
 355 360 365
 Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys
 370 375 380
 Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu
 385 390 395 400
 Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn
 405 410 415
 Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr
 420 425 430
 Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala
 435 440 445
 Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro
 450 455 460
 His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu
 465 470 475 480
 Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu
 485 490 495
 Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys
 500 505 510
 Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu
 515 520 525
 Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met
 530 535 540
 Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val
 545 550 555 560
 Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr
 565 570 575
 Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp
 580 585 590
 Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His
 595 600 605
 Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln
 610 615 620
 Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu
 625 630 635 640

Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys
645 650 655

Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys
660 665 670

Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
675 680

<210> 288
<211> 640
<212> PRT
<213> Homo sapiens

<400> 288
Met Lys Val Ser Val Ala Ala Leu Ser Cys Leu Met Leu Val Thr Ala
1 5 10 15

Leu Gly Ser Gln Ala Ser Val Ser Glu Ile Gln Leu Met His Asn Leu
20 25 30

Gly Lys His Leu Asn Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys
35 40 45

Leu Gln Asp Val His Asn Phe Asp Ala His Lys Ser Glu Val Ala His
50 55 60

Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile
65 70 75 80

Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys
85 90 95

Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu
100 105 110

Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys
115 120 125

Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp
130 135 140

Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His
145 150 155 160

Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp
165 170 175

Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys
180 185 190

Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu
195 200 205

Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys
210 215 220

Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu
225 230 235 240

Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala

| 245 | | | | | | | | | | 250 | | | | | 255 | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | Ala | | | | |
| | | | 260 | | | | | 265 | | | | | 270 | | | | | | |
| Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | Lys | | | | |
| | | 275 | | | | | 280 | | | | | 285 | | | | | | | |
| Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | Asp | | | | |
| | | 290 | | | | 295 | | | | | 300 | | | | | | | | |
| Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | Cys | | | | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | | | | |
| Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | Lys | | | | |
| | | | | 325 | | | | | 330 | | | | | 335 | | | | | |
| Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | Glu | | | | |
| | | | 340 | | | | | 345 | | | | | 350 | | | | | | |
| Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | Lys | | | | |
| | | 355 | | | | | 360 | | | | | 365 | | | | | | | |
| Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | Met | | | | |
| | 370 | | | | | 375 | | | | | 380 | | | | | | | | |
| Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | Leu | | | | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | | | | |
| Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | Cys | | | | |
| | | | | 405 | | | | | 410 | | | | | 415 | | | | | |
| Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | Phe | | | | |
| | | | 420 | | | | | 425 | | | | | 430 | | | | | | |
| Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | Glu | | | | |
| | | 435 | | | | | 440 | | | | | 445 | | | | | | | |
| Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | Val | | | | |
| | 450 | | | | | 455 | | | | | 460 | | | | | | | | |
| Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | Glu | | | | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | | | | |
| Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His | Pro | | | | |
| | | | 485 | | | | | 490 | | | | | | 495 | | | | | |
| Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val | Leu | | | | |
| | | | 500 | | | | | 505 | | | | | 510 | | | | | | |
| Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg | Val | | | | |
| | | 515 | | | | | 520 | | | | | 525 | | | | | | | |
| Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe | Ser | | | | |
| | 530 | | | | | 535 | | | | | 540 | | | | | | | | |
| Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala | Glu | | | | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | | | | |
| Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu | Arg | | | | |
| | | | | 565 | | | | | 570 | | | | | 575 | | | | | |
| Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys | Pro | | | | |

| 580 | | | | | 585 | | | | | 590 | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala | Ala |
| | 595 | | | | | | 600 | | | | | 605 | | | |
| Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe | Ala |
| | 610 | | | | | 615 | | | | | 620 | | | | |
| Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly | Leu |
| | 625 | | | | | 630 | | | | | 635 | | | | 640 |
| | | | | | | | | | | | | | | | |
| <210> 289 | | | | | | | | | | | | | | | |
| <211> 692 | | | | | | | | | | | | | | | |
| <212> PRT | | | | | | | | | | | | | | | |
| <213> Homo sapiens | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| <220> | | | | | | | | | | | | | | | |
| <221> SITE | | | | | | | | | | | | | | | |
| <222> (532) | | | | | | | | | | | | | | | |
| <223> Xaa equals any of the naturally occurring L-amino acids | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| <400> 289 | | | | | | | | | | | | | | | |
| Met | Lys | Trp | Val | Thr | Phe | Ile | Ser | Leu | Leu | Phe | Leu | Phe | Ser | Ser | Ala |
| | 1 | | | | | 5 | | | | | 10 | | | | 15 |
| Tyr | Ser | Arg | Gly | Val | Phe | Arg | Arg | Asp | Ala | His | Lys | Ser | Glu | Val | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp |
| | 65 | | | | | 70 | | | | | 75 | | | | 80 |
| Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| | 145 | | | | | 150 | | | | | 155 | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |

| 210 | 215 | 220 |
|--|-----|-----|
| Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val 225 230 235 240 | | |
| Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser 245 250 255 | | |
| Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly 260 265 270 | | |
| Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile 275 280 285 | | |
| Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu 290 295 300 | | |
| Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp 305 310 315 320 | | |
| Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser 325 330 335 | | |
| Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly 340 345 350 | | |
| Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val 355 360 365 | | |
| Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys 370 375 380 | | |
| Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu 385 390 395 400 | | |
| Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys 405 410 415 | | |
| Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu 420 425 430 | | |
| Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val 435 440 445 | | |
| Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His 450 455 460 | | |
| Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val 465 470 475 480 | | |
| Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg 485 490 495 | | |
| Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe 500 505 510 | | |
| Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala 515 520 525 | | |
| Glu Thr Phe Xaa Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu 530 535 540 | | |
| Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys | | |

Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe
 145 150 155 160
 Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu
 165 170 175
 Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
 180 185 190
 Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro
 195 200 205
 Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe
 210 215 220
 Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr
 225 230 235 240
 Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr
 245 250 255
 Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu
 260 265 270
 Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu
 275 280 285
 Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
 290 295 300
 Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu
 305 310 315 320
 Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys
 325 330 335
 His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys
 340 345 350
 Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys
 355 360 365
 Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu
 370 375 380
 Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val
 385 390 395 400
 Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
 405 410 415
 Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
 420 425 430
 Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu
 435 440 445
 Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe
 450 455 460
 Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
 465 470 475 480

Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
 485 490 495
 Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
 500 505 510
 Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
 515 520 525
 Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
 530 535 540
 Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
 545 550 555 560
 Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro
 565 570 575
 Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
 580 585 590
 Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
 595 600 605
 Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
 610 615 620
 His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
 625 630 635 640
 Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr
 645 650 655
 Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
 660 665 670
 Leu Gly Leu
 675

<210> 291
 <211> 675
 <212> PRT
 <213> Homo sapiens

<400> 291
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Gly Pro Tyr His Pro Ser Glu Cys
 20 25 30
 Cys Phe Thr Tyr Thr Thr Tyr Lys Ile Pro Arg Gln Arg Ile Met Asp
 35 40 45
 Tyr Tyr Glu Thr Asn Ser Gln Cys Ser Lys Pro Gly Ile Val Phe Ile
 50 55 60
 Thr Lys Arg Gly His Ser Val Cys Thr Asn Pro Ser Asp Lys Trp Val
 65 70 75 80

Gln Asp Tyr Ile Lys Asp Met Lys Glu Asn Asp Ala His Lys Ser Glu
 85 90 95
 Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu
 100 105 110
 Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp
 115 120 125
 His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val
 130 135 140
 Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe
 145 150 155 160
 Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu
 165 170 175
 Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
 180 185 190
 Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro
 195 200 205
 Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe
 210 215 220
 Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr
 225 230 235 240
 Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr
 245 250 255
 Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu
 260 265 270
 Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu
 275 280 285
 Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
 290 295 300
 Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu
 305 310 315 320
 Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys
 325 330 335
 His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys
 340 345 350
 Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys
 355 360 365
 Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu
 370 375 380
 Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val
 385 390 395 400
 Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
 405 410 415

Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
 420 425 430
 Val Val Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu
 435 440 445
 Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe
 450 455 460
 Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
 465 470 475 480
 Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
 485 490 495
 Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
 500 505 510
 Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
 515 520 525
 Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
 530 535 540
 Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
 545 550 555 560
 Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro
 565 570 575
 Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
 580 585 590
 Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
 595 600 605
 Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
 610 615 620
 His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
 625 630 635 640
 Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr
 645 650 655
 Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
 660 665 670
 Leu Gly Leu
 675

<210> 292
 <211> 692
 <212> PRT
 <213> Homo sapiens

<400> 292
 Met Lys Val Ser Val Ala Ala Leu Ser Cys Leu Met Leu Val Thr Ala
 1 5 10 15

Leu Gly Ser Gln Ala Ser Val Ser Glu Ile Gln Leu Met His Asn Leu

| 20 | | | | | 25 | | | | | 30 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Lys | His | Leu | Asn | Ser | Met | Glu | Arg | Val | Glu | Trp | Leu | Arg | Lys | Lys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Gln | Asp | Val | His | Asn | Phe | Val | Ala | Leu | Gly | Ala | Pro | Leu | Ala | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Asp | Ala | Gly | Ser | Gln | Arg | Pro | Arg | Lys | Lys | Glu | Asp | Asn | Val | Leu |
| | 65 | | | | | 70 | | | | | 75 | | | | 80 |
| Val | Glu | Ser | His | Glu | Lys | Ser | Leu | Gly | Glu | Ala | Asp | Lys | Ala | Asp | Val |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asn | Val | Leu | Thr | Lys | Ala | Lys | Ser | Gln | Thr | Ser | Asp | Ala | His | Lys | Ser |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Glu | Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Leu | Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys |
| | 145 | | | | | 150 | | | | | 155 | | | | 160 |
| Val | Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Phe | Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr |
| | 225 | | | | | 230 | | | | | 235 | | | | 240 |
| Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala |
| | 305 | | | | | 310 | | | | | 315 | | | | 320 |
| Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Glu | Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Cys | His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala |

| | | | | |
|---|-----|-----|-----|-----|
| 355 | | 360 | | 365 |
| Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu | 370 | 375 | | 380 |
| Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val | 385 | 390 | 395 | 400 |
| Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe | | 405 | 410 | 415 |
| Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val | | 420 | 425 | 430 |
| Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr | | 435 | 440 | 445 |
| Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu | | 450 | 455 | 460 |
| Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val | | 465 | 470 | 475 |
| Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys | | 485 | 490 | 495 |
| Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn | | 500 | 505 | 510 |
| Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro | | 515 | 520 | 525 |
| Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys | | 530 | 535 | 540 |
| Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu | | 545 | 550 | 555 |
| Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val | | 565 | 570 | 575 |
| Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg | | 580 | 585 | 590 |
| Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu | | 595 | 600 | 605 |
| Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser | | 610 | 615 | 620 |
| Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val | | 625 | 630 | 635 |
| Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp | | 645 | 650 | 655 |
| Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu | | 660 | 665 | 670 |
| Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala | | 675 | 680 | 685 |
| Ala Leu Gly Leu | | | | |

690

<210> 293
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<212> PRT
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<400> 293
Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu
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Val Thr Asn Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
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Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
35 40 45
Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
50 55 60
Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
65 70 75 80
Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
85 90 95
Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
100 105 110
Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
115 120 125
Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
130 135 140
Cys Gln Ser Ile Ile Ser Thr Leu Thr Asp Ala His Lys Ser Glu Val
145 150 155 160
Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val
165 170 175
Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His
180 185 190
Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala
195 200 205
Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly
210 215 220
Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met
225 230 235 240
Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu
245 250 255
Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu
260 265 270
Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu
275 280 285

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | | |
| 290 | | | | | | 295 | | | | | 300 | | | | | | |
| Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | | |
| Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | | |
| | | | | 325 | | | | | 330 | | | | | 335 | | | |
| Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | | |
| | | | 340 | | | | | 345 | | | | | 350 | | | | |
| Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | | |
| | | 355 | | | | | 360 | | | | | 365 | | | | | |
| Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | | |
| | 370 | | | | | 375 | | | | | 380 | | | | | | |
| Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | | |
| Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | | |
| | | | 405 | | | | | | 410 | | | | | 415 | | | |
| Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | | |
| | | | 420 | | | | | 425 | | | | | 430 | | | | |
| Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | | |
| | | 435 | | | | | 440 | | | | | 445 | | | | | |
| Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | | |
| | 450 | | | | | 455 | | | | | 460 | | | | | | |
| Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | | |
| Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | | |
| | | | 485 | | | | | | 490 | | | | | 495 | | | |
| Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | | |
| | | | 500 | | | | | 505 | | | | | 510 | | | | |
| Cys | Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | | |
| | | 515 | | | | | 520 | | | | | 525 | | | | | |
| Glu | Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | | |
| | 530 | | | | | 535 | | | | | 540 | | | | | | |
| Cys | Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | | |
| Leu | Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | | |
| | | | | 565 | | | | | 570 | | | | | 575 | | | |
| Val | Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | | |
| | | | 580 | | | | | 585 | | | | | 590 | | | | |
| His | Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | | |
| | 595 | | | | | | 600 | | | | | 605 | | | | | |
| Val | Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | | |
| | 610 | | | | | 615 | | | | | 620 | | | | | | |

Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys
 625 630 635 640
 Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn
 645 650 655
 Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys
 660 665 670
 Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His
 675 680 685
 Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe
 690 695 700
 Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys
 705 710 715 720
 Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu
 725 730 735
 Gly Leu

<210> 294
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<400> 294
 Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu
 1 5 10 15
 Val Thr Asn Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
 20 25 30
 Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
 35 40 45
 Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
 50 55 60
 Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
 65 70 75 80
 Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
 85 90 95
 Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
 100 105 110
 Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
 115 120 125
 Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
 130 135 140
 Cys Gln Ser Ile Ile Ser Thr Leu Thr Asp Ala His Lys Ser Glu Val
 145 150 155 160

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | 165 | 170 | 175 |
| Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | 180 | 185 | 190 |
| Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | 195 | 200 | 205 |
| Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | 210 | 215 | 220 |
| Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | 225 | 230 | 235 |
| Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | 245 | 250 | 255 |
| Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | 260 | 265 | 270 |
| Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | 275 | 280 | 285 |
| Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | 290 | 295 | 300 |
| Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | 305 | 310 | 315 |
| Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | 325 | 330 | 335 |
| Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | 340 | 345 | 350 |
| Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | 355 | 360 | 365 |
| Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | 370 | 375 | 380 |
| Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | 385 | 390 | 395 |
| Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | 405 | 410 | 415 |
| Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | 420 | 425 | 430 |
| Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | 435 | 440 | 445 |
| Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | 450 | 455 | 460 |
| Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | 465 | 470 | 475 |
| Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | 485 | 490 | 495 |

Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys
 500 505 510
 Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp
 515 520 525
 Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn
 530 535 540
 Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu
 545 550 555 560
 Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu
 565 570 575
 Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys
 580 585 590
 His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val
 595 600 605
 Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp
 610 615 620
 Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys
 625 630 635 640
 Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn
 645 650 655
 Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys
 660 665 670
 Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His
 675 680 685
 Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe
 690 695 700
 Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys
 705 710 715 720
 Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu
 725 730 735

Gly Leu

<210> 295
 <211> 691
 <212> PRT
 <213> Homo sapiens

<400> 295
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Ser Leu Asp Lys Arg Gly Pro Tyr His Pro Ser Glu Cys
 20 25 30
 Cys Phe Thr Tyr Thr Thr Tyr Lys Ile Pro Arg Gln Arg Ile Met Asp
 35 40 45

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Tyr | Tyr | Glu | Thr | Asn | Ser | Gln | Cys | Ser | Lys | Pro | Gly | Ile | Val | Phe | Ile | |
| 50 | | | | | | 55 | | | | | 60 | | | | | |
| Thr | Lys | Arg | Gly | His | Ser | Val | Cys | Thr | Asn | Pro | Ser | Asp | Lys | Trp | Val | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Gln | Asp | Tyr | Ile | Lys | Asp | Met | Lys | Glu | Asn | Ser | Gly | Gly | Gly | Gly | Ser | |
| | | | | 85 | | | | | 90 | | | | | | 95 | |
| Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Asp | Ala | His | Lys | Ser | Glu | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | |
| | | | | 165 | | | | | 170 | | | | | 175 | | |
| Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | |
| | | | 245 | | | | | 250 | | | | | | 255 | | |
| Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | |
| | | 355 | | | | | 360 | | | | | 365 | | | | |
| Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |

Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu
 385 390 395 400
 Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val
 405 410 415
 Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
 420 425 430
 Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
 435 440 445
 Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Lys Thr Thr Leu Glu
 450 455 460
 Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe
 465 470 475 480
 Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
 485 490 495
 Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
 500 505 510
 Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
 515 520 525
 Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
 530 535 540
 Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
 545 550 555 560
 Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
 565 570 575
 Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro
 580 585 590
 Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
 595 600 605
 Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
 610 615 620
 Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
 625 630 635 640
 His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
 645 650 655
 Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr
 660 665 670
 Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
 675 680 685
 Leu Gly Leu
 690

<210> 296

<211> 864

<212> PRT

<213> Homo sapiens

<400> 296

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Trp | Val | Ser | Phe | Ile | Ser | Leu | Leu | Phe | Leu | Phe | Ser | Ser | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Ser | Arg | Ser | Leu | Asp | Lys | Arg | Asp | Ala | His | Lys | Ser | Glu | Val | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp | His | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |

Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly
 610 615 620
 Ser Ser Val Arg Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Asn Asn
 625 630 635 640
 Asn Ala Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp
 645 650 655

Met Gly Gly Ile Ile Pro Met Phe Gly Thr Ala Lys Tyr Ser Gln Asn
 660 665 670
 Phe Gln Gly Arg Val Ala Ile Thr Ala Asp Glu Ser Thr Gly Thr Ala
 675 680 685
 Ser Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr
 690 695 700
 Cys Ala Arg Ser Arg Asp Leu Leu Leu Phe Pro His His Ala Leu Ser
 705 710 715 720
 Pro Trp Gly Arg Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly
 725 730 735
 Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Phe Ser Ser Glu
 740 745 750
 Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln Thr Val Arg
 755 760 765
 Val Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala Ser Trp Tyr
 770 775 780
 Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr Gly Lys Asn
 785 790 795 800
 Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly
 805 810 815
 Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu Asp Glu Ala
 820 825 830
 Asp Tyr Tyr Cys Ser Ser Arg Asp Ser Ser Gly Asn His Trp Val Phe
 835 840 845
 Gly Gly Gly Thr Glu Leu Thr Val Leu Gly His His His His His His
 850 855 860

<210> 297
 <211> 777
 <212> PRT
 <213> Homo sapiens

<400> 297
 Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu
 1 5 10 15
 Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu
 20 25 30
 Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu
 35 40 45
 Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu
 50 55 60

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Ile | Thr | Val | Pro | Asp | Thr | Lys | Val | Asn | Phe | Tyr | Ala | Trp | Lys | Arg | 65 | 70 | 75 | 80 |
| Met | Glu | Val | Gly | Gln | Gln | Ala | Val | Glu | Val | Trp | Gln | Gly | Leu | Ala | Leu | 85 | 90 | 95 | |
| Leu | Ser | Glu | Ala | Val | Leu | Arg | Gly | Gln | Ala | Leu | Leu | Val | Asn | Ser | Ser | 100 | 105 | 110 | |
| Gln | Pro | Trp | Glu | Pro | Leu | Gln | Leu | His | Val | Asp | Lys | Ala | Val | Ser | Gly | 115 | 120 | 125 | |
| Leu | Arg | Ser | Leu | Thr | Thr | Leu | Leu | Arg | Ala | Leu | Arg | Ala | Gln | Lys | Glu | 130 | 135 | 140 | |
| Ala | Ile | Ser | Pro | Pro | Asp | Ala | Ala | Ser | Ala | Ala | Pro | Leu | Arg | Thr | Ile | 145 | 150 | 155 | 160 |
| Thr | Ala | Asp | Thr | Phe | Arg | Lys | Leu | Phe | Arg | Val | Tyr | Ser | Asn | Phe | Leu | 165 | 170 | | 175 |
| Arg | Gly | Lys | Leu | Lys | Leu | Tyr | Thr | Gly | Glu | Ala | Cys | Arg | Thr | Gly | Asp | 180 | 185 | | 190 |
| Asp | Ala | His | Lys | Ser | Glu | Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | 195 | 200 | 205 | |
| Glu | Asn | Phe | Lys | Ala | Leu | Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | 210 | 215 | 220 | |
| Gln | Cys | Pro | Phe | Glu | Asp | His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | 225 | 230 | 235 | 240 |
| Phe | Ala | Lys | Thr | Cys | Val | Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | 245 | 250 | | 255 |
| Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | 260 | 265 | | 270 |
| Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | 275 | 280 | 285 | |
| Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | 290 | 295 | 300 | |
| Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | 305 | 310 | 315 | 320 |
| Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | 325 | 330 | | 335 |
| Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | 340 | 345 | | 350 |
| Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | 355 | 360 | 365 | |
| Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | 370 | 375 | 380 | |
| Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | 385 | 390 | 395 | 400 |

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
 405 410 415
 Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
 420 425 430
 Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
 435 440 445
 Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
 450 455 460
 Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
 465 470 475 480
 Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
 485 490 495
 Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
 500 505 510
 Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
 515 520 525
 Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
 530 535 540
 Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
 545 550 555 560
 Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
 565 570 575
 Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
 580 585 590
 Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
 595 600 605
 Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
 610 615 620
 Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
 625 630 635 640
 Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
 645 650 655
 Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
 660 665 670
 Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
 675 680 685
 Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
 690 695 700
 Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
 705 710 715 720
 Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
 725 730 735

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
740 745 750

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
755 760 765

Ala Ala Ser Gln Ala Ala Leu Gly Leu
770 775

<210> 298

<211> 771

<212> PRT

<213> Homo sapiens

<400> 298

Met Lys Val Ser Val Ala Ala Leu Ser Cys Leu Met Leu Val Thr Ala
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Leu Gly Ser Gln Ala Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val
20 25 30

Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr
35 40 45

Gly Cys Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp
50 55 60

Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln
65 70 75 80

Ala Val Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu
85 90 95

Arg Gly Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu
100 105 110

Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr
115 120 125

Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp
130 135 140

Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg
145 150 155 160

Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu
165 170 175

Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Asp Ala His Lys Ser Glu
180 185 190

Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu
195 200 205

Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp
210 215 220

His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val
225 230 235 240

Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe

| 245 | | | | | | | | | | 250 | | | | | 255 | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | | | | |
| | | | 260 | | | | | 265 | | | | | 270 | | | | | | |
| Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | | | | |
| | | 275 | | | | | 280 | | | | | 285 | | | | | | | |
| Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | | | | |
| | 290 | | | | | 295 | | | | | 300 | | | | | | | | |
| Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | | | | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | | | | |
| Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | | | | |
| | | | 325 | | | | | | 330 | | | | | 335 | | | | | |
| Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | | | | |
| | | | 340 | | | | | 345 | | | | | 350 | | | | | | |
| Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | | | | |
| | | 355 | | | | | 360 | | | | | 365 | | | | | | | |
| Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | | | | |
| | 370 | | | | | 375 | | | | | 380 | | | | | | | | |
| Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | | | | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | | | | |
| Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | | | | |
| | | | | 405 | | | | | 410 | | | | | 415 | | | | | |
| Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | | | | |
| | | | 420 | | | | | 425 | | | | | 430 | | | | | | |
| His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | | | | |
| | | 435 | | | | | 440 | | | | | 445 | | | | | | | |
| Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | | | | |
| | 450 | | | | | 455 | | | | | 460 | | | | | | | | |
| Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | | | | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | | | | |
| Asn | Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | | | | |
| | | | | 485 | | | | | 490 | | | | | 495 | | | | | |
| Glu | Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | | | | |
| | | | 500 | | | | | 505 | | | | | 510 | | | | | | |
| Leu | Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | | | | |
| | | 515 | | | | | 520 | | | | | 525 | | | | | | | |
| Val | Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | | | | |
| | 530 | | | | | 535 | | | | | 540 | | | | | | | | |
| Lys | Cys | Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | | | | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | | | | |
| Asp | Glu | Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | | | | |
| | | | | 565 | | | | | 570 | | | | | 575 | | | | | |
| Asn | Cys | Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | | | | |

| | | |
|---|-----|-----|
| 580 | 585 | 590 |
| Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr | | |
| 595 | 600 | 605 |
| Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys | | |
| 610 | 615 | 620 |
| Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser | | |
| 625 | 630 | 635 |
| Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser | | |
| 645 | 650 | 655 |
| Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro | | |
| 660 | 665 | 670 |
| Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe | | |
| 675 | 680 | 685 |
| Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu | | |
| 690 | 695 | 700 |
| Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys | | |
| 705 | 710 | 715 |
| His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp | | |
| 725 | 730 | 735 |
| Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr | | |
| 740 | 745 | 750 |
| Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala | | |
| 755 | 760 | 765 |
| Leu Gly Leu | | |
| 770 | | |

<210> 299
 <211> 774
 <212> PRT
 <213> Homo sapiens

| |
|---|
| <400> 299 |
| Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala |
| 1 5 10 15 |
| Tyr Ser Arg Gly Val Phe Arg Arg Ala Pro Pro Arg Leu Ile Cys Asp |
| 20 25 30 |
| Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn |
| 35 40 45 |
| Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr |
| 50 55 60 |
| Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val |
| 65 70 75 80 |
| Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu |
| 85 90 95 |

Ala Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp
 100 105 110
 Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser
 115 120 125
 Leu Thr Thr Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu Ala Ile Ser
 130 135 140
 Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp
 145 150 155 160
 Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys
 165 170 175
 Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Asp Ala His
 180 185 190
 Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe
 195 200 205
 Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
 210 215 220
 Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys
 225 230 235 240
 Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
 245 250 255
 Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
 260 265 270
 Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
 275 280 285
 Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
 290 295 300
 Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu
 305 310 315 320
 Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
 325 330 335
 Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
 340 345 350
 Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
 355 360 365
 Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
 370 375 380
 Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe
 385 390 395 400
 Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu
 405 410 415
 Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr
 420 425 430

Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp
 435 440 445
 Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu
 450 455 460
 Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala
 465 470 475 480
 Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala
 485 490 495
 Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys
 500 505 510
 Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro
 515 520 525
 Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr
 530 535 540
 Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala
 545 550 555 560
 Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu
 565 570 575
 Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe
 580 585 590
 Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser
 595 600 605
 Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser
 610 615 620
 Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp
 625 630 635 640
 Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr
 645 650 655
 Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn
 660 665 670
 Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro
 675 680 685
 Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr
 690 695 700
 Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu
 705 710 715 720
 Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val
 725 730 735
 Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp
 740 745 750
 Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser
 755 760 765

Gln Ala Ala Leu Gly Leu
770

<210> 300
<211> 774
<212> PRT
<213> Homo sapiens

<400> 300
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1 5 10 15
Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
20 25 30
His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
35 40 45
Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
50 55 60
Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
65 70 75 80
Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
85 90 95
Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
100 105 110
Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
115 120 125
His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
130 135 140
Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
145 150 155 160
Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
165 170 175
Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
180 185 190
Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
195 200 205
Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
210 215 220
Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
225 230 235 240
Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
245 250 255
Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
260 265 270

Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605

Leu Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr
 610 615 620
 Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu
 625 630 635 640
 His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn
 645 650 655
 Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val
 660 665 670
 Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala
 675 680 685
 Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val
 690 695 700
 Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala
 705 710 715 720
 Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala
 725 730 735
 Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg
 740 745 750
 Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu
 755 760 765
 Ala Cys Arg Thr Gly Asp
 770

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 <212> PRT
 <213> Homo sapiens

<400> 301
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Ser Leu Asp Lys Arg Gly Asp Arg Leu His Cys Lys Pro
 20 25 30
 Gln Arg Gln Ser Pro Trp Met Lys Cys Gln His Leu Asp Pro Glu Gly
 35 40 45
 Gly Gly Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu
 50 55 60
 Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr
 65 70 75 80
 Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val
 85 90 95
 Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys
 100 105 110
 Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala

| 115 | | | | | 120 | | | | | 125 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln |
| 130 | | | | | | 135 | | | | | 140 | | | | |
| Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | Lys | Leu | Val | Thr | Asp | Leu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | Asp | Leu | Leu | Glu | Cys | Ala |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | Glu | Met | Pro | Ala | Asp | Leu |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | Lys | Asp | Val | Cys | Lys | Asn |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | Met | Phe | Leu | Tyr | Glu | Tyr |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | Leu | Leu | Leu | Arg | Leu | Ala |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | Cys | Ala | Ala | Ala | Asp | Pro |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | Phe | Lys | Pro | Leu | Val | Glu |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | Glu | Leu | Phe | Glu | Gln | Leu |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | Val | Arg | Tyr | Thr | Lys | Lys |

| 450 | 455 | 460 |
|---|---|---------|
| Val Pro Gln Val Ser Thr | Pro Thr Leu Val Glu Val Ser Arg Asn Leu | |
| 465 | 470 | 475 480 |
| Gly Lys Val Gly Ser Lys Cys Cys Lys His | Pro Glu Ala Lys Arg Met | |
| | 485 490 | 495 |
| Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val | | |
| | 500 505 | 510 |
| Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr | | |
| | 515 520 | 525 |
| Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp | | |
| | 530 535 | 540 |
| Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His | | |
| | 545 550 | 555 560 |
| Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln | | |
| | 565 570 | 575 |
| Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu | | |
| | 580 585 | 590 |
| Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys | | |
| | 595 600 | 605 |
| Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys | | |
| | 610 615 | 620 |
| Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu | | |
| | 625 630 | 635 |

<210> 302
 <211> 774
 <212> PRT
 <213> Homo sapiens

| <400> 302 |
|---|
| Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala |
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| Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala |
| 20 25 30 |
| His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu |
| 35 40 45 |
| Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val |
| 50 55 60 |
| Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp |
| 65 70 75 80 |
| Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp |
| 85 90 95 |
| Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala |
| 100 105 110 |

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | | |
| | | 115 | | | | | | 120 | | | | 125 | | | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | | |
| | 145 | | | | 150 | | | | | 155 | | | | | 160 | | |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | | |
| | | | | 165 | | | | | 170 | | | | | 175 | | | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | | |
| | | | 180 | | | | | 185 | | | | | 190 | | | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | | |
| | | 195 | | | | | 200 | | | | | 205 | | | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | | |
| | 225 | | | | 230 | | | | | 235 | | | | | 240 | | |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | | |
| | | | | 245 | | | | | 250 | | | | | 255 | | | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | | |
| | | | 260 | | | | | 265 | | | | | | 270 | | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | | |
| | 275 | | | | | | 280 | | | | | 285 | | | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | | |
| | 290 | | | | | 295 | | | | | 300 | | | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | | |
| | 305 | | | | 310 | | | | | 315 | | | | | 320 | | |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | | |
| | | | | 325 | | | | | 330 | | | | | 335 | | | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | | |
| | | | 340 | | | | | 345 | | | | | 350 | | | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | | |
| | 355 | | | | | | 360 | | | | | 365 | | | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | | |
| | 370 | | | | | 375 | | | | | | 380 | | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | | |
| | 385 | | | | 390 | | | | | 395 | | | | | 400 | | |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | | |
| | | | | 405 | | | | | 410 | | | | | 415 | | | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu | | |
| | | | 420 | | | | | 425 | | | | | 430 | | | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val | | |
| | | 435 | | | | | 440 | | | | | | 445 | | | | |

Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr
 610 615 620
 Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu
 625 630 635 640
 His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn
 645 650 655
 Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val
 660 665 670
 Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala
 675 680 685
 Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val
 690 695 700
 Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala
 705 710 715 720
 Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala
 725 730 735
 Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg
 740 745 750
 Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu
 755 760 765
 Ala Cys Arg Thr Gly Asp
 770

<210> 303
 <211> 774
 <212> PRT
 <213> Homo sapiens

<400> 303
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Gly Val Phe Arg Arg Ala Pro Pro Arg Leu Ile Cys Asp
 20 25 30
 Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn
 35 40 45
 Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr
 50 55 60
 Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val
 65 70 75 80
 Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu
 85 90 95
 Ala Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp
 100 105 110
 Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser
 115 120 125
 Leu Thr Thr Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu Ala Ile Ser
 130 135 140
 Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp
 145 150 155 160
 Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys
 165 170 175
 Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Asp Ala His
 180 185 190
 Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe
 195 200 205
 Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
 210 215 220
 Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys
 225 230 235 240
 Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
 245 250 255
 Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
 260 265 270
 Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
 275 280 285

Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
 290 295 300
 Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu
 305 310 315 320
 Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
 325 330 335
 Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
 340 345 350
 Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
 355 360 365
 Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
 370 375 380
 Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe
 385 390 395 400
 Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu
 405 410 415
 Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr
 420 425 430
 Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp
 435 440 445
 Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu
 450 455 460
 Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala
 465 470 475 480
 Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala
 485 490 495
 Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys
 500 505 510
 Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro
 515 520 525
 Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr
 530 535 540
 Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala
 545 550 555 560
 Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu
 565 570 575
 Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe
 580 585 590
 Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser
 595 600 605
 Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser
 610 615 620

Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp
 625 630 635 640
 Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr
 645 650 655
 Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn
 660 665 670
 Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro
 675 680 685
 Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr
 690 695 700
 Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu
 705 710 715 720
 Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val
 725 730 735
 Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp
 740 745 750
 Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser
 755 760 765
 Gln Ala Ala Leu Gly Leu
 770

<210> 304
 <211> 771
 <212> PRT
 <213> Homo sapiens

<400> 304
 Met Lys Val Ser Val Ala Ala Leu Ser Cys Leu Met Leu Val Thr Ala
 1 5 10 15
 Leu Gly Ser Gln Ala Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val
 20 25 30
 Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr
 35 40 45
 Gly Cys Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp
 50 55 60
 Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln
 65 70 75 80
 Ala Val Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu
 85 90 95
 Arg Gly Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu
 100 105 110
 Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr
 115 120 125
 Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp

| 130 | | | | | 135 | | | | | 140 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ala | Ser | Ala | Ala | Pro | Leu | Arg | Thr | Ile | Thr | Ala | Asp | Thr | Phe | Arg |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Leu | Phe | Arg | Val | Tyr | Ser | Asn | Phe | Leu | Arg | Gly | Lys | Leu | Lys | Leu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Tyr | Thr | Gly | Glu | Ala | Cys | Arg | Thr | Gly | Asp | Asp | Ala | His | Lys | Ser | Glu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala | Leu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu | Asp |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu |

| | | | | | | |
|-------------------------------------|---|-------------------------|-----|-----|--|-----|
| 465 | | 470 | | 475 | | 480 |
| Asn Asp Glu Met Pro | Ala Asp Leu Pro Ser | Leu Ala Ala Asp Phe Val | | | | |
| | 485 | | 490 | | | 495 |
| Glu Ser Lys Asp Val | Cys Lys Asn Tyr Ala | Glu Ala Lys Asp Val Phe | | | | |
| | 500 | | 505 | | | 510 |
| Leu Gly Met Phe Leu Tyr | Glu Tyr Ala Arg Arg His | Pro Asp Tyr Ser | | | | |
| | 515 | | 520 | | | 525 |
| Val Val Leu Leu Leu Arg | Leu Ala Lys Thr Tyr Glu Thr Thr | Leu Glu | | | | |
| | 530 | | 535 | | | 540 |
| Lys Cys Cys Ala Ala | Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe | | | | | |
| | 545 | | 550 | | | 555 |
| Asp Glu Phe Lys Pro | Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln | | | | | |
| | 565 | | 570 | | | 575 |
| Asn Cys Glu Leu Phe Glu Gln | Leu Gly Glu Tyr Lys Phe Gln Asn Ala | | | | | |
| | 580 | | 585 | | | 590 |
| Leu Leu Val Arg Tyr Thr | Lys Lys Val Pro Gln Val Ser Thr Pro Thr | | | | | |
| | 595 | | 600 | | | 605 |
| Leu Val Glu Val Ser Arg | Asn Leu Gly Lys Val Gly Ser Lys Cys Cys | | | | | |
| | 610 | | 615 | | | 620 |
| Lys His Pro Glu Ala Lys Arg | Met Pro Cys Ala Glu Asp Tyr Leu Ser | | | | | |
| | 625 | | 630 | | | 635 |
| Val Val Leu Asn Gln Leu Cys | Val Leu His Glu Lys Thr Pro Val Ser | | | | | |
| | 645 | | 650 | | | 655 |
| Asp Arg Val Thr Lys Cys Cys Thr | Glu Ser Leu Val Asn Arg Arg Pro | | | | | |
| | 660 | | 665 | | | 670 |
| Cys Phe Ser Ala Leu Glu Val | Asp Glu Thr Tyr Val Pro Lys Glu Phe | | | | | |
| | 675 | | 680 | | | 685 |
| Asn Ala Glu Thr Phe Thr Phe His | Ala Asp Ile Cys Thr Leu Ser Glu | | | | | |
| | 690 | | 695 | | | 700 |
| Lys Glu Arg Gln Ile Lys Lys Gln Thr | Ala Leu Val Glu Leu Val Lys | | | | | |
| | 705 | | 710 | | | 715 |
| His Lys Pro Lys Ala Thr Lys Glu Gln | Leu Lys Ala Val Met Asp Asp | | | | | |
| | 725 | | 730 | | | 735 |
| Phe Ala Ala Phe Val Glu Lys Cys Cys | Lys Ala Asp Asp Lys Glu Thr | | | | | |
| | 740 | | 745 | | | 750 |
| Cys Phe Ala Glu Glu Gly Lys Lys | Leu Val Ala Ala Ser Gln Ala Ala | | | | | |
| | 755 | | 760 | | | 765 |
| Leu Gly Leu | | | | | | |
| | 770 | | | | | |

<210> 305
 <211> 777

<212> PRT

<213> Homo sapiens

<400> 305

Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu
1 5 10 15
Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu
20 25 30
Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu
35 40 45
Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu
50 55 60
Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg
65 70 75 80
Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu
85 90 95
Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser
100 105 110
Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly
115 120 125
Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Arg Ala Gln Lys Glu
130 135 140
Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile
145 150 155 160
Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu
165 170 175
Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp
180 185 190
Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
195 200 205
Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
210 215 220
Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
225 230 235 240
Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
245 250 255
Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
260 265 270
Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
275 280 285
Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
290 295 300
Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
305 310 315 320

Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
 325 330 335
 Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
 340 345 350
 Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
 355 360 365
 Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
 370 375 380
 Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
 385 390 395 400
 Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
 405 410 415
 Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
 420 425 430
 Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
 435 440 445
 Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
 450 455 460
 Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
 465 470 475 480
 Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
 485 490 495
 Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
 500 505 510
 Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
 515 520 525
 Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
 530 535 540
 Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
 545 550 555 560
 Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
 565 570 575
 Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
 580 585 590
 Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
 595 600 605
 Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
 610 615 620
 Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
 625 630 635 640
 Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
 645 650 655

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
 660 665 670
 Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
 675 680 685
 Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
 690 695 700
 Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
 705 710 715 720
 Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
 725 730 735
 Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
 740 745 750
 Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
 755 760 765
 Ala Ala Ser Gln Ala Ala Leu Gly Leu
 770 775

<210> 306
 <211> 675
 <212> PRT
 <213> Homo sapiens

<400> 306
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Gly Pro Tyr His Pro Ser Glu Cys
 20 25 30
 Cys Phe Thr Tyr Thr Thr Tyr Lys Ile Pro Arg Gln Arg Ile Met Asp
 35 40 45
 Tyr Tyr Glu Thr Asn Ser Gln Cys Ser Lys Pro Gly Ile Val Phe Ile
 50 55 60
 Thr Lys Arg Gly His Ser Val Cys Thr Asn Pro Ser Asp Lys Trp Val
 65 70 75 80
 Gln Asp Tyr Ile Lys Asp Met Lys Glu Asn Asp Ala His Lys Ser Glu
 85 90 95
 Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu
 100 105 110
 Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp
 115 120 125
 His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val
 130 135 140
 Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe
 145 150 155 160

Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu
 165 170 175
 Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
 180 185 190
 Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro
 195 200 205
 Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe
 210 215 220
 Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr
 225 230 235 240
 Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr
 245 250 255
 Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu
 260 265 270
 Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu
 275 280 285
 Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
 290 295 300
 Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu
 305 310 315 320
 Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys
 325 330 335
 His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys
 340 345 350
 Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys
 355 360 365
 Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu
 370 375 380
 Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val
 385 390 395 400
 Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
 405 410 415
 Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
 420 425 430
 Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu
 435 440 445
 Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe
 450 455 460
 Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
 465 470 475 480
 Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
 485 490 495

Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
 500 505 510
 Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
 515 520 525
 Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
 530 535 540
 Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
 545 550 555 560
 Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro
 565 570 575
 Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
 580 585 590
 Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
 595 600 605
 Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
 610 615 620
 His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
 625 630 635 640
 Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr
 645 650 655
 Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
 660 665 670
 Leu Gly Leu
 675

<210> 307
 <211> 635
 <212> PRT
 <213> Homo sapiens

<400> 307
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80
 Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
 85 90 95
 Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala

| 100 | | | | | 105 | | | | | 110 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile |
| | 275 | | | | | 280 | | | | | | 285 | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val |
| | 355 | | | | | 360 | | | | | | 365 | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |

435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Gly Asp Arg Leu His Cys Lys Pro Gln Arg Gln Ser Pro Trp Met
 610 615 620
 Lys Cys Gln His Leu Asp Pro Glu Gly Gly Gly
 625 630 635

<210> 308
 <211> 635
 <212> PRT
 <213> Homo sapiens

<400> 308
 Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Ser Leu Asp Lys Arg Gly Asp Asp Asp Asp Cys Gly Trp
 20 25 30
 Ile Gly Phe Ala Asn Phe His Leu Cys Leu His Gly Asp Pro Glu Gly
 35 40 45
 Gly Gly Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu
 50 55 60
 Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr
 65 70 75 80
 Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val
 85 90 95

Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys
 100 105 110
 Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala
 115 120 125
 Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln
 130 135 140
 Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro
 145 150 155 160
 Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala
 165 170 175
 Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile
 180 185 190
 Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala
 195 200 205
 Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys
 210 215 220
 Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys
 225 230 235 240
 Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe
 245 250 255
 Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg
 260 265 270
 Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu
 275 280 285
 Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala
 290 295 300
 Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser
 305 310 315 320
 Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys
 325 330 335
 Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu
 340 345 350
 Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn
 355 360 365
 Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr
 370 375 380
 Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala
 385 390 395 400
 Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro
 405 410 415
 His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu
 420 425 430

Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu
 435 440 445
 Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys
 450 455 460
 Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu
 465 470 475 480
 Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met
 485 490 495
 Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val
 500 505 510
 Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr
 515 520 525
 Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp
 530 535 540
 Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His
 545 550 555 560
 Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln
 565 570 575
 Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu
 580 585 590
 Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys
 595 600 605
 Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys
 610 615 620
 Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
 625 630 635

<210> 309
 <211> 635
 <212> PRT
 <213> Homo sapiens

<400> 309
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
 65 70 75 80

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu | Phe | Gly | Asp | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly | Glu | Met | Ala | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys | Phe | Leu | Gln | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg | Pro | Glu | Val | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr | Phe | Leu | Lys | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe | Tyr | Ala | Pro | |
| | | | | 165 | | | | | 170 | | | | | 175 | | |
| Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe | Thr | Glu | Cys | |
| | | | 180 | | | | | 185 | | | | | | 190 | | |
| Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys | Leu | Asp | Glu | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg | Leu | Lys | Cys | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala | Trp | Ala | Val | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala | Glu | Val | Ser | |
| | | | | 245 | | | | | 250 | | | | | 255 | | |
| Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys | Cys | His | Gly | |
| | | | 260 | | | | | 265 | | | | | | 270 | | |
| Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala | Lys | Tyr | Ile | |
| | 275 | | | | | | 280 | | | | | 285 | | | | |
| Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu | Cys | Cys | Glu | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val | Glu | Asn | Asp | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe | Val | Glu | Ser | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val | Phe | Leu | Gly | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr | Ser | Val | Val | |
| | 355 | | | | | | 360 | | | | | 365 | | | | |
| Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu | Glu | Lys | Cys | |
| | 370 | | | | | 375 | | | | | | 380 | | | | |
| Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val | Phe | Asp | Glu | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys | Gln | Asn | Cys | |
| | | | | 405 | | | | | 410 | | | | | 415 | | |

Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590
 Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Gly Asp Asp Asp Asp Cys Gly Trp Ile Gly Phe Ala Asn Phe His
 610 615 620
 Leu Cys Leu His Gly Asp Pro Glu Gly Gly Gly
 625 630 635

<210> 310
 <211> 772
 <212> PRT
 <213> Homo sapiens

<400> 310
 Met Thr Asn Lys Cys Leu Leu Gln Ile Ala Leu Leu Leu Cys Phe Ser
 1 5 10 15
 Thr Thr Ala Leu Ser Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg
 20 25 30
 Ser Ser Asn Phe Gln Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg
 35 40 45
 Leu Glu Tyr Cys Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu
 50 55 60
 Ile Lys Gln Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | | | | 70 | | | | | | 75 | | | | 80 |
| Tyr | Glu | Met | Leu | Gln | Asn | Ile | Phe | Ala | Ile | Phe | Arg | Gln | Asp | Ser | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ser | Thr | Gly | Trp | Asn | Glu | Thr | Ile | Val | Glu | Asn | Leu | Leu | Ala | Asn | Val |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Tyr | His | Gln | Ile | Asn | His | Leu | Lys | Thr | Val | Leu | Glu | Glu | Lys | Leu | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Lys | Glu | Asp | Phe | Thr | Arg | Gly | Lys | Leu | Met | Ser | Ser | Leu | His | Leu | Lys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Arg | Tyr | Tyr | Gly | Arg | Ile | Leu | His | Tyr | Leu | Lys | Ala | Lys | Glu | Tyr | Ser |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| His | Cys | Ala | Trp | Thr | Ile | Val | Arg | Val | Glu | Ile | Leu | Arg | Asn | Phe | Tyr |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Phe | Ile | Asn | Arg | Leu | Thr | Gly | Tyr | Leu | Arg | Asn | Asp | Ala | His | Lys | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Glu | Val | Ala | His | Arg | Phe | Lys | Asp | Leu | Gly | Glu | Glu | Asn | Phe | Lys | Ala |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Leu | Val | Leu | Ile | Ala | Phe | Ala | Gln | Tyr | Leu | Gln | Gln | Cys | Pro | Phe | Glu |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Asp | His | Val | Lys | Leu | Val | Asn | Glu | Val | Thr | Glu | Phe | Ala | Lys | Thr | Cys |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Val | Ala | Asp | Glu | Ser | Ala | Glu | Asn | Cys | Asp | Lys | Ser | Leu | His | Thr | Leu |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Phe | Gly | Asp | Lys | Leu | Cys | Thr | Val | Ala | Thr | Leu | Arg | Glu | Thr | Tyr | Gly |
| | | 260 | | | | | 265 | | | | | | 270 | | |
| Glu | Met | Ala | Asp | Cys | Cys | Ala | Lys | Gln | Glu | Pro | Glu | Arg | Asn | Glu | Cys |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Phe | Leu | Gln | His | Lys | Asp | Asp | Asn | Pro | Asn | Leu | Pro | Arg | Leu | Val | Arg |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Pro | Glu | Val | Asp | Val | Met | Cys | Thr | Ala | Phe | His | Asp | Asn | Glu | Glu | Thr |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr | Phe |
| | | | 325 | | | | | | 330 | | | | | 335 | |
| Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala | Phe |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro | Lys |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln | Arg |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys | Ala |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe | Ala |

| 405 | | | | | 410 | | | | | 415 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu | Cys |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Cys | His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu | Ala |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Lys | Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys | Glu |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Cys | Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu | Val |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Glu | Asn | Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp | Phe |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Val | Glu | Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp | Val |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Phe | Leu | Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp | Tyr |
| | 515 | | | | | | 520 | | | | | 525 | | | |
| Ser | Val | Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr | Leu |
| | 530 | | | | | 535 | | | | | | 540 | | | |
| Glu | Lys | Cys | Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys | Val |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Phe | Asp | Glu | Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile | Lys |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Gln | Asn | Cys | Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Ala | Leu | Leu | Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro |
| | 595 | | | | | | 600 | | | | | 605 | | | |
| Thr | Leu | Val | Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys |
| | 610 | | | | | 615 | | | | | 620 | | | | |
| Cys | Lys | His | Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 |
| Ser | Val | Val | Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val |
| | | | | 645 | | | | | 650 | | | | | 655 | |
| Ser | Asp | Arg | Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg |
| | | | 660 | | | | | 665 | | | | | 670 | | |
| Pro | Cys | Phe | Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu |
| | | 675 | | | | | 680 | | | | | 685 | | | |
| Phe | Asn | Ala | Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser |
| | 690 | | | | | 695 | | | | | 700 | | | | |
| Glu | Lys | Glu | Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 |
| Lys | His | Lys | Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp |
| | | | | 725 | | | | | 730 | | | | | 735 | |
| Asp | Phe | Ala | Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu |

| | | |
|---|-----|---------|
| 740 | 745 | 750 |
| Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala | | |
| 755 | 760 | 765 |
| Ala Leu Gly Leu | | |
| 770 | | |
| | | |
| <210> 311 | | |
| <211> 775 | | |
| <212> PRT | | |
| <213> Homo sapiens | | |
| | | |
| <400> 311 | | |
| Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala | | |
| 1 | 5 | 10 15 |
| Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala | | |
| 20 | 25 | 30 |
| His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu | | |
| 35 | 40 | 45 |
| Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val | | |
| 50 | 55 | 60 |
| Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp | | |
| 65 | 70 | 75 80 |
| Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp | | |
| 85 | 90 | 95 |
| Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala | | |
| 100 | 105 | 110 |
| Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln | | |
| 115 | 120 | 125 |
| His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val | | |
| 130 | 135 | 140 |
| Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys | | |
| 145 | 150 | 155 160 |
| Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro | | |
| 165 | 170 | 175 |
| Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys | | |
| 180 | 185 | 190 |
| Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu | | |
| 195 | 200 | 205 |
| Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys | | |
| 210 | 215 | 220 |
| Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val | | |
| 225 | 230 | 235 240 |
| Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser | | |
| 245 | 250 | 255 |

Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
 260 265 270
 Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
 275 280 285
 Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
 290 295 300
 Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
 305 310 315 320
 Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
 325 330 335
 Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
 340 345 350
 Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
 355 360 365
 Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
 370 375 380
 Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
 385 390 395 400
 Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
 405 410 415
 Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
 420 425 430
 Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
 435 440 445
 Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
 450 455 460
 Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
 465 470 475 480
 Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
 485 490 495
 Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
 500 505 510
 Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
 515 520 525
 Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
 530 535 540
 Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
 545 550 555 560
 Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
 565 570 575
 Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
 580 585 590

Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
 595 600 605
 Leu Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn, Phe
 610 615 620
 Gln Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys
 625 630 635 640
 Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu
 645 650 655
 Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu
 660 665 670
 Gln Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp
 675 680 685
 Asn Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile
 690 695 700
 Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe
 705 710 715 720
 Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly
 725 730 735
 Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp
 740 745 750
 Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg
 755 760 765
 Leu Thr Gly Tyr Leu Arg Asn
 770 775

<210> 312
 <211> 986
 <212> PRT
 <213> Homo sapiens

<400> 312
 Met Asn Lys Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
 1 5 10 15
 Lys Trp Thr Thr Gln Glu Thr Phe Pro Pro Lys Tyr Leu His Tyr Asp
 20 25 30
 Glu Glu Thr Ser His Gln Leu Leu Cys Asp Lys Cys Pro Pro Gly Thr
 35 40 45
 Tyr Leu Lys Gln His Cys Thr Ala Lys Trp Lys Thr Val Cys Ala Pro
 50 55 60
 Cys Pro Asp His Tyr Tyr Thr Asp Ser Trp His Thr Ser Asp Glu Cys
 65 70 75 80
 Leu Tyr Cys Ser Pro Val Cys Lys Glu Leu Gln Tyr Val Lys Gln Glu
 85 90 95

Cys Asn Arg Thr His Asn Arg Val Cys Glu Cys Lys Glu Gly Arg Tyr
 100 105 110
 Leu Glu Ile Glu Phe Cys Leu Lys His Arg Ser Cys Pro Pro Gly Phe
 115 120 125
 Gly Val Val Gln Ala Gly Thr Pro Glu Arg Asn Thr Val Cys Lys Arg
 130 135 140
 Cys Pro Asp Gly Phe Phe Ser Asn Glu Thr Ser Ser Lys Ala Pro Cys
 145 150 155 160
 Arg Lys His Thr Asn Cys Ser Val Phe Gly Leu Leu Leu Thr Gln Lys
 165 170 175
 Gly Asn Ala Thr His Asp Asn Ile Cys Ser Gly Asn Ser Glu Ser Thr
 180 185 190
 Gln Lys Cys Gly Ile Asp Val Thr Leu Cys Glu Glu Ala Phe Phe Arg
 195 200 205
 Phe Ala Val Pro Thr Lys Phe Thr Pro Asn Trp Leu Ser Val Leu Val
 210 215 220
 Asp Asn Leu Pro Gly Thr Lys Val Asn Ala Glu Ser Val Glu Arg Ile
 225 230 235 240
 Lys Arg Gln His Ser Ser Gln Glu Gln Thr Phe Gln Leu Leu Lys Leu
 245 250 255
 Trp Lys His Gln Asn Lys Asp Gln Asp Ile Val Lys Lys Ile Ile Gln
 260 265 270
 Asp Ile Asp Leu Cys Glu Asn Ser Val Gln Arg His Ile Gly His Ala
 275 280 285
 Asn Leu Thr Phe Glu Gln Leu Arg Ser Leu Met Glu Ser Leu Pro Gly
 290 295 300
 Lys Lys Val Gly Ala Glu Asp Ile Glu Lys Thr Ile Lys Ala Cys Lys
 305 310 315 320
 Pro Ser Asp Gln Ile Leu Lys Leu Leu Ser Leu Trp Arg Ile Lys Asn
 325 330 335
 Gly Asp Gln Asp Thr Leu Lys Gly Leu Met His Ala Leu Lys His Ser
 340 345 350
 Lys Thr Tyr His Phe Pro Lys Thr Val Thr Gln Ser Leu Lys Lys Thr
 355 360 365
 Ile Arg Phe Leu His Ser Phe Thr Met Tyr Lys Leu Tyr Gln Lys Leu
 370 375 380
 Phe Leu Glu Met Ile Gly Asn Gln Val Gln Ser Val Lys Ile Ser Cys
 385 390 395 400
 Leu Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly
 405 410 415
 Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu
 420 425 430

Gln Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr
 435 440 445
 Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp
 450 455 460
 Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr
 465 470 475 480
 Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu
 485 490 495
 Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn
 500 505 510
 Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe
 515 520 525
 His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala
 530 535 540
 Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys
 545 550 555 560
 Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala
 565 570 575
 Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala
 580 585 590
 Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly
 595 600 605
 Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe
 610 615 620
 Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr
 625 630 635 640
 Lys Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp
 645 650 655
 Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile
 660 665 670
 Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser
 675 680 685
 His Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro
 690 695 700
 Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr
 705 710 715 720
 Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala
 725 730 735
 Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys
 740 745 750
 Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His
 755 760 765

Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu
 770 775 780
 Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly
 785 790 795 800
 Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val
 805 810 815
 Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly
 820 825 830
 Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro
 835 840 845
 Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu
 850 855 860
 His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu
 865 870 875 880
 Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu
 885 890 895
 Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala
 900 905 910
 Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr
 915 920 925
 Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln
 930 935 940
 Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys
 945 950 955 960
 Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu
 965 970 975
 Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
 980 985

<210> 313
 <211> 989
 <212> PRT
 <213> Homo sapiens

<400> 313
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
 1 5 10 15
 Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
 20 25 30
 His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
 35 40 45
 Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
 50 55 60
 Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp

| 65 | 70 | | | | | 75 | | | | | 80 | | | | |
|---|-----|--|--|--|--|-----|--|--|--|--|-----|--|--|--|--|
| Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp | 85 | | | | | 90 | | | | | 95 | | | | |
| Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala | 100 | | | | | 105 | | | | | 110 | | | | |
| Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln | 115 | | | | | 120 | | | | | 125 | | | | |
| His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys | 145 | | | | | 150 | | | | | 155 | | | | |
| Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro | 165 | | | | | 170 | | | | | 175 | | | | |
| Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys | 180 | | | | | 185 | | | | | 190 | | | | |
| Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu | 195 | | | | | 200 | | | | | 205 | | | | |
| Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys | 210 | | | | | 215 | | | | | 220 | | | | |
| Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val | 225 | | | | | 230 | | | | | 235 | | | | |
| Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser | 245 | | | | | 250 | | | | | 255 | | | | |
| Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly | 260 | | | | | 265 | | | | | 270 | | | | |
| Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile | 275 | | | | | 280 | | | | | 285 | | | | |
| Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp | 305 | | | | | 310 | | | | | 315 | | | | |
| Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser | 325 | | | | | 330 | | | | | 335 | | | | |
| Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly | 340 | | | | | 345 | | | | | 350 | | | | |
| Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val | 355 | | | | | 360 | | | | | 365 | | | | |
| Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys | 370 | | | | | 375 | | | | | 380 | | | | |
| Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu | 385 | | | | | 390 | | | | | 395 | | | | |
| Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys | | | | | | | | | | | | | | | |

| 405 | | | | | 410 | | | | | 415 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln | Asn | Ala | Leu | Leu |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr | Pro | Thr | Leu | Val |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys | Cys | Cys | Lys | His |
| | | 450 | | | | 455 | | | | | 460 | | | | |
| Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr | Leu | Ser | Val | Val |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro | Val | Ser | Asp | Arg |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Val | Thr | Lys | Cys | Cys | Thr | Glu | Ser | Leu | Val | Asn | Arg | Arg | Pro | Cys | Phe |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Ser | Ala | Leu | Glu | Val | Asp | Glu | Thr | Tyr | Val | Pro | Lys | Glu | Phe | Asn | Ala |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Glu | Thr | Phe | Thr | Phe | His | Ala | Asp | Ile | Cys | Thr | Leu | Ser | Glu | Lys | Glu |
| | | 530 | | | | 535 | | | | | 540 | | | | |
| Arg | Gln | Ile | Lys | Lys | Gln | Thr | Ala | Leu | Val | Glu | Leu | Val | Lys | His | Lys |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Pro | Lys | Ala | Thr | Lys | Glu | Gln | Leu | Lys | Ala | Val | Met | Asp | Asp | Phe | Ala |
| | | | | 565 | | | | | 570 | | | | | 575 | |
| Ala | Phe | Val | Glu | Lys | Cys | Cys | Lys | Ala | Asp | Asp | Lys | Glu | Thr | Cys | Phe |
| | | | 580 | | | | | 585 | | | | | 590 | | |
| Ala | Glu | Glu | Gly | Lys | Lys | Leu | Val | Ala | Ala | Ser | Gln | Ala | Ala | Leu | Gly |
| | | 595 | | | | | 600 | | | | | 605 | | | |
| Leu | Glu | Thr | Phe | Pro | Pro | Lys | Tyr | Leu | His | Tyr | Asp | Glu | Glu | Thr | Ser |
| | | 610 | | | | 615 | | | | | 620 | | | | |
| His | Gln | Leu | Leu | Cys | Asp | Lys | Cys | Pro | Pro | Gly | Thr | Tyr | Leu | Lys | Gln |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 |
| His | Cys | Thr | Ala | Lys | Trp | Lys | Thr | Val | Cys | Ala | Pro | Cys | Pro | Asp | His |
| | | | | 645 | | | | | 650 | | | | | 655 | |
| Tyr | Tyr | Thr | Asp | Ser | Trp | His | Thr | Ser | Asp | Glu | Cys | Leu | Tyr | Cys | Ser |
| | | | 660 | | | | | 665 | | | | | 670 | | |
| Pro | Val | Cys | Lys | Glu | Leu | Gln | Tyr | Val | Lys | Gln | Glu | Cys | Asn | Arg | Thr |
| | | 675 | | | | | 680 | | | | | 685 | | | |
| His | Asn | Arg | Val | Cys | Glu | Cys | Lys | Glu | Gly | Arg | Tyr | Leu | Glu | Ile | Glu |
| | | 690 | | | | 695 | | | | | 700 | | | | |
| Phe | Cys | Leu | Lys | His | Arg | Ser | Cys | Pro | Pro | Gly | Phe | Gly | Val | Val | Gln |
| 705 | | | | | 710 | | | | | 715 | | | | | 720 |
| Ala | Gly | Thr | Pro | Glu | Arg | Asn | Thr | Val | Cys | Lys | Arg | Cys | Pro | Asp | Gly |
| | | | | 725 | | | | | 730 | | | | | 735 | |
| Phe | Phe | Ser | Asn | Glu | Thr | Ser | Ser | Lys | Ala | Pro | Cys | Arg | Lys | His | Thr |

| 740 | | | | | 745 | | | | | 750 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Cys | Ser | Val | Phe | Gly | Leu | Leu | Leu | Thr | Gln | Lys | Gly | Asn | Ala | Thr |
| | 755 | | | | | | 760 | | | | | 765 | | | |
| His | Asp | Asn | Ile | Cys | Ser | Gly | Asn | Ser | Glu | Ser | Thr | Gln | Lys | Cys | Gly |
| | 770 | | | | | 775 | | | | | 780 | | | | |
| Ile | Asp | Val | Thr | Leu | Cys | Glu | Glu | Ala | Phe | Phe | Arg | Phe | Ala | Val | Pro |
| 785 | | | | | | 790 | | | | | 795 | | | | 800 |
| Thr | Lys | Phe | Thr | Pro | Asn | Trp | Leu | Ser | Val | Leu | Val | Asp | Asn | Leu | Pro |
| | | | | 805 | | | | | 810 | | | | | 815 | |
| Gly | Thr | Lys | Val | Asn | Ala | Glu | Ser | Val | Glu | Arg | Ile | Lys | Arg | Gln | His |
| | | | 820 | | | | | 825 | | | | | 830 | | |
| Ser | Ser | Gln | Glu | Gln | Thr | Phe | Gln | Leu | Leu | Lys | Leu | Trp | Lys | His | Gln |
| | | 835 | | | | | 840 | | | | | 845 | | | |
| Asn | Lys | Asp | Gln | Asp | Ile | Val | Lys | Lys | Ile | Ile | Gln | Asp | Ile | Asp | Leu |
| | 850 | | | | | 855 | | | | | 860 | | | | |
| Cys | Glu | Asn | Ser | Val | Gln | Arg | His | Ile | Gly | His | Ala | Asn | Leu | Thr | Phe |
| 865 | | | | | | 870 | | | | | 875 | | | | 880 |
| Glu | Gln | Leu | Arg | Ser | Leu | Met | Glu | Ser | Leu | Pro | Gly | Lys | Lys | Val | Gly |
| | | | | 885 | | | | | 890 | | | | | 895 | |
| Ala | Glu | Asp | Ile | Glu | Lys | Thr | Ile | Lys | Ala | Cys | Lys | Pro | Ser | Asp | Gln |
| | | | 900 | | | | | 905 | | | | | 910 | | |
| Ile | Leu | Lys | Leu | Leu | Ser | Leu | Trp | Arg | Ile | Lys | Asn | Gly | Asp | Gln | Asp |
| | 915 | | | | | | 920 | | | | | 925 | | | |
| Thr | Leu | Lys | Gly | Leu | Met | His | Ala | Leu | Lys | His | Ser | Lys | Thr | Tyr | His |
| | 930 | | | | | 935 | | | | | 940 | | | | |
| Phe | Pro | Lys | Thr | Val | Thr | Gln | Ser | Leu | Lys | Lys | Thr | Ile | Arg | Phe | Leu |
| 945 | | | | | | 950 | | | | | 955 | | | | 960 |
| His | Ser | Phe | Thr | Met | Tyr | Lys | Leu | Tyr | Gln | Lys | Leu | Phe | Leu | Glu | Met |
| | | | | 965 | | | | | 970 | | | | | 975 | |
| Ile | Gly | Asn | Gln | Val | Gln | Ser | Val | Lys | Ile | Ser | Cys | Leu | | | |
| | | | 980 | | | | | 985 | | | | | | | |

<210> 314

<211> 693

<212> PRT

<213> Homo sapiens

<400> 314

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Trp | Val | Thr | Phe | Ile | Ser | Leu | Leu | Phe | Leu | Phe | Ser | Ser | Ala |
| 1 | | | | | 5 | | | | 10 | | | | | 15 | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Ser | Arg | Gly | Val | Phe | Arg | Arg | Ser | Val | Ser | Glu | Ile | Gln | Leu | Met |
| | | | 20 | | | | | 25 | | | | | 30 | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Asn | Leu | Gly | Lys | His | Leu | Asn | Ser | Met | Glu | Arg | Val | Glu | Trp | Leu |
| | 35 | | | | | | 40 | | | | | | 45 | | |

Arg Lys Lys Leu Gln Asp Val His Asn Phe Val Ala Leu Gly Ala Pro
 50 55 60
 Leu Ala Pro Arg Asp Ala Gly Ser Gln Arg Pro Arg Lys Lys Glu Asp
 65 70 75 80
 Asn Val Leu Val Glu Ser His Glu Lys Ser Leu Gly Glu Ala Asp Lys
 85 90 95
 Ala Asp Val Asn Val Leu Thr Lys Ala Lys Ser Gln Asp Ala His Lys
 100 105 110
 Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys
 115 120 125
 Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe
 130 135 140
 Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr
 145 150 155 160
 Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr
 165 170 175
 Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr
 180 185 190
 Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu
 195 200 205
 Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val
 210 215 220
 Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu
 225 230 235 240
 Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr
 245 250 255
 Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala
 260 265 270
 Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro
 275 280 285
 Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln
 290 295 300
 Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys
 305 310 315 320
 Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe
 325 330 335
 Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu
 340 345 350
 Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu
 355 360 365
 Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys
 370 375 380

Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu
 385 390 395 400
 Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp
 405 410 415
 Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp
 420 425 430
 Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp
 435 440 445
 Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr
 450 455 460
 Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys
 465 470 475 480
 Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile
 485 490 495
 Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln
 500 505 510
 Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr
 515 520 525
 Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys
 530 535 540
 Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr
 545 550 555 560
 Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro
 565 570 575
 Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg
 580 585 590
 Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys
 595 600 605
 Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu
 610 615 620
 Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu
 625 630 635 640
 Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met
 645 650 655
 Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys
 660 665 670
 Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln
 675 680 685
 Ala Ala Leu Gly Leu
 690

<210> 315
 <211> 693
 <212> PRT
 <213> Homo sapiens

<400> 315
 Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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 Tyr Ser Arg Gly Val Phe Arg Arg Ser Val Ser Glu Ile Gln Leu Met
 20 25 30
 His Asn Leu Gly Lys His Leu Asn Ser Met Glu Arg Val Glu Trp Leu
 35 40 45
 Arg Lys Lys Leu Gln Asp Val His Asn Phe Val Ala Leu Gly Ala Pro
 50 55 60
 Leu Ala Pro Arg Asp Ala Gly Ser Gln Arg Pro Arg Lys Lys Glu Asp
 65 70 75 80
 Asn Val Leu Val Glu Ser His Glu Lys Ser Leu Gly Glu Ala Asp Lys
 85 90 95
 Ala Asp Val Asn Val Leu Thr Lys Ala Lys Ser Gln Asp Ala His Lys
 100 105 110
 Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys
 115 120 125
 Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe
 130 135 140
 Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr
 145 150 155 160
 Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr
 165 170 175
 Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr
 180 185 190
 Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu
 195 200 205
 Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val
 210 215 220
 Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu
 225 230 235 240
 Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr
 245 250 255
 Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala
 260 265 270
 Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro
 275 280 285
 Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln
 290 295 300

Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys
 305 310 315 320
 Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe
 325 330 335
 Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu
 340 345 350
 Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu
 355 360 365
 Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys
 370 375 380
 Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu
 385 390 395 400
 Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp
 405 410 415
 Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp
 420 425 430
 Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp
 435 440 445
 Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr
 450 455 460
 Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys
 465 470 475 480
 Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile
 485 490 495
 Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln
 500 505 510
 Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr
 515 520 525
 Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys
 530 535 540
 Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr
 545 550 555 560
 Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro
 565 570 575
 Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg
 580 585 590
 Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys
 595 600 605
 Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu
 610 615 620
 Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu
 625 630 635 640

Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met
645 650 655
Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys
660 665 670
Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln
675 680 685
Ala Ala Leu Gly Leu
690

<210> 316
<211> 693
<212> PRT
<213> Homo sapiens

<400> 316
Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
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Tyr Ser Arg Ser Leu Asp Lys Arg Ser Val Ser Glu Ile Gln Leu Met
20 25 30
His Asn Leu Gly Lys His Leu Asn Ser Met Glu Arg Val Glu Trp Leu
35 40 45
Arg Lys Lys Leu Gln Asp Val His Asn Phe Val Ala Leu Gly Ala Pro
50 55 60
Leu Ala Pro Arg Asp Ala Gly Ser Gln Arg Pro Arg Lys Lys Glu Asp
65 70 75 80
Asn Val Leu Val Glu Ser His Glu Lys Ser Leu Gly Glu Ala Asp Lys
85 90 95
Ala Asp Val Asn Val Leu Thr Lys Ala Lys Ser Gln Asp Ala His Lys
100 105 110
Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys
115 120 125
Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe
130 135 140
Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr
145 150 155 160
Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr
165 170 175
Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr
180 185 190
Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu
195 200 205
Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val
210 215 220
Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Thr | Phe | Leu | Lys | Lys | Tyr | Leu | Tyr | Glu | Ile | Ala | Arg | Arg | His | Pro | Tyr |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Phe | Tyr | Ala | Pro | Glu | Leu | Leu | Phe | Phe | Ala | Lys | Arg | Tyr | Lys | Ala | Ala |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Phe | Thr | Glu | Cys | Cys | Gln | Ala | Ala | Asp | Lys | Ala | Ala | Cys | Leu | Leu | Pro |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Lys | Leu | Asp | Glu | Leu | Arg | Asp | Glu | Gly | Lys | Ala | Ser | Ser | Ala | Lys | Gln |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Arg | Leu | Lys | Cys | Ala | Ser | Leu | Gln | Lys | Phe | Gly | Glu | Arg | Ala | Phe | Lys |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Ala | Trp | Ala | Val | Ala | Arg | Leu | Ser | Gln | Arg | Phe | Pro | Lys | Ala | Glu | Phe |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ala | Glu | Val | Ser | Lys | Leu | Val | Thr | Asp | Leu | Thr | Lys | Val | His | Thr | Glu |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Cys | Cys | His | Gly | Asp | Leu | Leu | Glu | Cys | Ala | Asp | Asp | Arg | Ala | Asp | Leu |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Ala | Lys | Tyr | Ile | Cys | Glu | Asn | Gln | Asp | Ser | Ile | Ser | Ser | Lys | Leu | Lys |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Glu | Cys | Cys | Glu | Lys | Pro | Leu | Leu | Glu | Lys | Ser | His | Cys | Ile | Ala | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Val | Glu | Asn | Asp | Glu | Met | Pro | Ala | Asp | Leu | Pro | Ser | Leu | Ala | Ala | Asp |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Phe | Val | Glu | Ser | Lys | Asp | Val | Cys | Lys | Asn | Tyr | Ala | Glu | Ala | Lys | Asp |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Val | Phe | Leu | Gly | Met | Phe | Leu | Tyr | Glu | Tyr | Ala | Arg | Arg | His | Pro | Asp |
| | 435 | | | | | 440 | | | | | | 445 | | | |
| Tyr | Ser | Val | Val | Leu | Leu | Leu | Arg | Leu | Ala | Lys | Thr | Tyr | Glu | Thr | Thr |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Leu | Glu | Lys | Cys | Cys | Ala | Ala | Ala | Asp | Pro | His | Glu | Cys | Tyr | Ala | Lys |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Val | Phe | Asp | Glu | Phe | Lys | Pro | Leu | Val | Glu | Glu | Pro | Gln | Asn | Leu | Ile |
| | | | | 485 | | | | | 490 | | | | | 495 | |
| Lys | Gln | Asn | Cys | Glu | Leu | Phe | Glu | Gln | Leu | Gly | Glu | Tyr | Lys | Phe | Gln |
| | | | 500 | | | | | 505 | | | | | 510 | | |
| Asn | Ala | Leu | Leu | Val | Arg | Tyr | Thr | Lys | Lys | Val | Pro | Gln | Val | Ser | Thr |
| | 515 | | | | | | 520 | | | | | 525 | | | |
| Pro | Thr | Leu | Val | Glu | Val | Ser | Arg | Asn | Leu | Gly | Lys | Val | Gly | Ser | Lys |
| | 530 | | | | | 535 | | | | | 540 | | | | |
| Cys | Cys | Lys | His | Pro | Glu | Ala | Lys | Arg | Met | Pro | Cys | Ala | Glu | Asp | Tyr |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 |
| Leu | Ser | Val | Val | Leu | Asn | Gln | Leu | Cys | Val | Leu | His | Glu | Lys | Thr | Pro |

His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr
 165 170 175
 Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys
 180 185 190
 Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser
 195 200 205
 Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg
 210 215 220
 Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys
 225 230 235 240
 Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val
 245 250 255
 His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg
 260 265 270
 Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser
 275 280 285
 Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys
 290 295 300
 Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu
 305 310 315 320
 Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu
 325 330 335
 Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg
 340 345 350
 His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr
 355 360 365
 Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys
 370 375 380
 Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln
 385 390 395 400
 Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr
 405 410 415
 Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Glu
 420 425 430
 Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val
 435 440 445
 Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala
 450 455 460
 Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu
 465 470 475 480
 Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu
 485 490 495